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Reasons for Decision

**TransCanada Keystone
Pipeline GP Ltd.**

OH-1-2009

March 2010

Facilities and Toll Methodology

Canada

National Energy Board

Reasons for Decision

In the Matter of

TransCanada Keystone Pipeline GP Ltd.

Section 52 Application dated 27 February 2009
for the Keystone XL Pipeline Project

OH-1-2009

March 2010

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Table of Contents

List of Figures	ii
List of Tables	ii
List of Appendices	ii
Glossary of Terms and Abbreviations	iii
Recital and Appearances.....	vi
1. Disposition	1
2. Background	2
2.1 Project Overview	2
2.2 Regulatory Context	5
3. Economic Feasibility	7
3.1 Crude Oil Supply	7
3.2 Transportation	9
3.3 Markets	13
3.4 Shipper Commitments and Project Financing	14
3.4.1 Shipper Commitments	14
3.4.2 Project Financing	14
4. Commercial Impacts.....	19
4.1 Competition and Netbacks	19
4.1.1 Competition.....	19
4.1.2 Netbacks.....	21
4.2 Potential Impacts on Existing Pipeline Infrastructure	24
4.3 Impacts on the Upgrading and Refining Industry in Canada.....	30
5. Tolls and Tariffs.....	36
5.1 Open Season.....	36
5.2 Uncommitted Capacity and Common Carrier Status.....	37
5.3 Tolls	39
5.3.1 Committed Tolls	39
5.3.2 Uncommitted Tolls	41
5.4 Transportation Tariff.....	42
5.5 Keystone's Designation for Financial Regulation	43
6. Engineering.....	49
6.1 Description of Facilities.....	49
6.2 Design, Construction and Operation.....	50
7. Land Matters.....	53
7.1 General Route Considerations	53
7.2 Physical Land Requirements.....	54
7.3 Land Acquisition and Notification.....	56
8. Public Consultation.....	58
8.1 Keystone's Public Consultation Program	58

9.	Aboriginal Consultation	61
9.1	Enhanced Aboriginal Engagement	61
9.2	Aboriginal Engagement by Keystone	62
9.3	Impacts of the Project on Aboriginal People	66
10.	Environment and Socio-Economic Matters.....	71
10.1	Environmental Screening Process.....	71
10.2	EA Process- related Questions Raised by the SCC	72
10.3	Socio-Economic Matters.....	76
10.3.1	Infrastructure and Services	76
10.3.2	Employment and Economy	77
11.	The Board's Public Interest Determination	78
11.1	The Canadian Public Interest.....	78
11.2	Weighing of Benefits and Burdens of the Keystone XL Pipeline	79
11.3	Acknowledgements.....	80

List of Figures

2-1	Keystone XL Pipeline Project – Canadian Section.....	3
2-2	Overview of Keystone System.....	4
3-1	Western Canada Crude Supply Forecast Comparison	8
3-2	Hardisty Infrastructure	8
3-3	Total Crude Exports vs. Pipeline Capacity	12
3-4	Heavy Crude Exports vs Pipeline Capacity	12
4-1	The Gretna Option	26
7-1	Sample Diagram of Contiguous Segment RoW	55
9-1	Keystone XL Pipeline Aboriginal Engagement Zone and Treaty Boundaries	63

List of Tables

3-1	Keystone Pipeline System.....	9
3-2	Capacities of Export Pipelines for Canadian Crudes: 2012.....	11
3-3	USGC Refining Market Available to the Keystone Pipeline.....	13
4-1	PGI – Keystone XL Net Benefits to Canadian Crude Producers in 2013	22
7-1	Summary of Land Information	56

List of Appendices

I	List of Issues	81
II	Significant Rulings.....	82
III	Certificate Conditions	102
IV	Environmental Screening Report.....	110

Glossary of Terms and Abbreviations

AB	Alberta
AFL	Alberta Federation of Labour
Alexander	Alexander First Nation No. 134
b/d	barrels per day
BP	BP Canada Energy Company
Base Keystone	Pipeline segment from Hardisty, Alberta to Haskett, Manitoba approved in OH-1-2007 and approved for expansion in OH-1-2008
Blood Tribe	Kainai First Nation
Board or NEB	National Energy Board
CAPP	Canadian Association of Petroleum Producers
CEA Act	<i>Canadian Environmental Assessment Act</i>
CEP	Communications, Energy & Paperworkers Union of Canada
CDN\$	Canadian dollars
CSA	Canadian Standards Association
CSA Z662	Canadian Standards Association Z662 Oil and Gas Pipelines System
ConocoPhillips	ConocoPhillips Canada Limited
CPCN	Certificate of Public Convenience and Necessity
Cushing Expansion	Adding 24 600 m ³ /d of capacity in Canada approved by the Board in OH-1-2008
Cushing Extension	A 473 km pipeline constructed in the U.S. from Steele City near the Nebraska/Kansas border to Cushing, Oklahoma. Built in conjunction with the Cushing Expansion facilities in Canada.
EA	environmental assessment
ERCB	Energy Resources Conservation Board
ESA	Environmental and Socio-Economic Assessment
ESR	environmental screening report
Enbridge	Enbridge Pipelines Inc.

FSIN	Federation of Saskatchewan Indian Nations
GIC	Governor-in-Council
GHG	greenhouse gas
Gulf Coast Segment	Cushing to USGC including Houston, Texas lateral
IL	Illinois
km	kilometre(s)
KSG	Keystone Shippers Group (Canadian Natural Resources Limited, ConocoPhillips Canada Marketing and trading ULC, EnCana Corporation, Shell Trading Canada, Total E&P Canada Ltd and Trafigura Canada General Partnership)
Keystone	TransCanada Keystone Pipeline GP Ltd.
Keystone XL	Keystone XL pipeline
Keystone system	Includes Base Keystone (original Keystone and Cushing expansion) and the Keystone XL Pipeline Project
Keystone US Tariff	Keystone US Petroleum Rules and Regulations
McInnes	Dale and Shirley McInnes
m ³	cubic metre(s)
m ³ /d	cubic metres per day
Mb/d	thousand barrels per day
MMb/d	million barrels per day
MPMO	Major Projects Management Office
Muse	Muse, Stancil & Co.
NEB Act or the Act	<i>National Energy Board Act</i>
Nekaneet	Nekaneet First Nation No. 380
nominal capacity	The long-term sustainable capacity of the pipeline.
OK	Oklahoma
OPR-99	<i>Onshore Pipeline Regulations, 1999</i>
PADD	Petroleum Administration for Defense District. Regions defined by the Energy Information Administration, U.S. Department of Energy that describes a market area for crude oil in the U.S.

PADD II	Region also known as the U.S. Midwest and includes the following states: Illinois, Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Missouri, Nebraska, North Dakota, South Dakota, Ohio, Oklahoma, Tennessee and Wisconsin
PADD III	Region also known as the U.S. Gulf Coast and includes New Mexico, Texas, Arkansas, Louisiana, Alabama and Mississippi.
PD	Project Description
Pentanes plus	A mixture of mainly pentanes and heavier hydrocarbons obtained from the processing of raw gas, condensate or crude oil.
PGI	Purvin & Gertz Inc.
Project	Keystone XL Pipeline Project
Red Pheasant	Red Pheasant First Nation No. 108
RoW	right-of-way
SCC	Sierra Club Canada
SK	Saskatchewan
Suncor	Suncor Energy Marketing Inc.
Sweetgrass and Moosomin	Sweetgrass and Moosomin First Nations
TK	Traditional Knowledge
TSA or TSAs	Transportation Service Agreement(s)
TWS	Temporary Work Space
TX	Texas
U.S.	United States
US\$	American dollars
USGC	United States Gulf Coast
VMSC	Valero Marketing and Supply Company
WCSB	Western Canada Sedimentary Basin

Recital and Appearances

IN THE MATTER OF the *National Energy Board Act* and the Regulations made thereunder;

IN THE MATTER OF an application dated 27 February 2009 by TransCanada Keystone Pipeline GP Ltd. for a certificate of public convenience and necessity authorizing the construction and operation of oil transmission facilities and approval of the tolls and tariff for the facilities pursuant to Parts III and IV of the *National Energy Board Act*, respectively, filed with the National Energy Board under File No. OF-Fac-Oil-T241-2009-01 01;

IN THE MATTER OF National Energy Board Hearing Order OH-1-2009 dated 12 May 2009;

HEARD in Calgary, Alberta on 15, 16, 17, 18, 21, 22, 23, 24 and 25 September and 1 and 2 October 2009;

BEFORE:

K.M. Bateman	Presiding Member
L. Mercier	Member
S.J. Snook	Member

Appearances

Participants

Witnesses

Applicant

W. M. Moreland	TransCanada Keystone Pipeline GP Ltd.
E. Swanson	

P. Miller
D. Diakow
T. Wise
K. Murchie
K. Phaff
V. Cabrejo
L. Fontana
A. Lees
J. Hunt
R. Kendel
A. McLandress

L. Chahley	Alberta Federation of Labour
------------	------------------------------

J. Custer	Sierra Club Canada
-----------	--------------------

A. L. McLarty	BP Canada Energy Company
---------------	--------------------------

D. Davies	Enbridge Pipelines Inc.
T. Hughes	

G. Jarvis
R. Fischer
N. Earnest

L. Landry	Imperial Oil Limited
-----------	----------------------

D. Carter	Dale and Shirley McInnes	D. McInnes S. McInnes
G. Nettleton	Keystone XL Shippers Group (Collectively Canadian Natural Resources Limited, Conoco Phillips Canada Marketing & Trading ULC, EnCana Corporation, Shell Trading Canada, Total E & P Canada Ltd. and Trafigura Canada Canada General Partnership)	
T. J. Richardson	Nexen Inc.	
D. Armstrong	Suncor Energy Marketing Inc.	
A. J. Dalton D. Brett	Valero Marketing and Supply Company	J. Malott
C. J. C. Page	Alberta Department of Energy	
C. M. Ozirny	Neekaneet First Nation No. 380 Red Pheasant Band No. 108	A. Pahtayken V. Sauvie
C. Beauchemin P. Ouellette	National Energy Board	

Written Arguments

Communications, Energy and Paperworkers Union Canada

Sierra Club Canada

Suncor Energy Marketing Inc.

Neekaneet First Nation No. 380 and Red Pheasant Band No. 108

Dale and Shirley McInnes

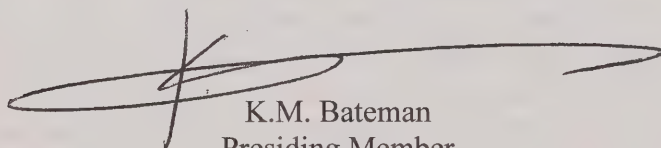
Chapter 1

Disposition

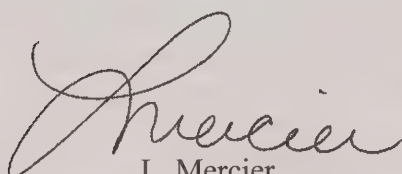
The National Energy Board (Board or NEB) finds that the proposed Keystone XL Pipeline (Keystone XL) Project is, and will be, required by the present and future public convenience and necessity, provided that the terms and conditions outlined in Appendix III, including all commitments made by TransCanada Keystone Pipeline GP Ltd. (Keystone) during the hearing process, are met. Subject to the approval of the Governor in Council, a Certificate of Public Convenience and Necessity (CPCN) incorporating the terms and conditions in Appendix III will be issued pursuant to Part III of the *National Energy Board Act*.

The Board also finds that the applied-for toll methodology will produce tolls that will be just and reasonable and not unjustly discriminatory pursuant to Part IV of the NEB Act. The Board does not approve the proposed Tariff.

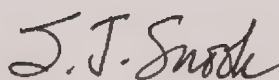
The ensuing chapters constitute the Reasons for Decision in respect of the 27 February 2009 Keystone application heard by the Board in the OH-1-2009 proceeding.



K.M. Bateman
Presiding Member



L. Mercier
Member



S.J. Snook
Member

Calgary, Alberta
March 2010

Chapter 2

Background

2.1 Project Overview

On 27 February 2009, Keystone applied to the Board for a CPCN under section 52 of the *National Energy Board Act* (NEB Act or Act) authorizing Keystone to construct and operate the Keystone XL Pipeline, and for an approval pursuant to Part IV of the NEB Act for the toll methodology and tariff.

The Keystone XL Pipeline Project (the Project) consists of the construction of approximately 529 kilometres (km) of new 914 millimetre outside diameter (nominal pipe size 36 inch) pipeline from Hardisty, Alberta (AB) to Monchy, Saskatchewan (SK) (Figure 2-1). The Project will have an initial capacity of approximately 111 300 m³/d (700, 000 barrels per day (b/d)) of commodity and is designed to be expandable to 143 100 m³/d (900,000 b/d). The Project will also include related physical works including: eight pump stations, storage tanks and other related works and activities including 32 mainline valves, cathodic protection for the pipeline, and pig launcher and receiver facilities.

The Keystone XL Pipeline will be an addition to Base Keystone. In OH-1-2007, the Board approved the construction of the original Keystone pipeline from Hardisty, AB, to Haskett, Manitoba (MB). This pipeline had a capacity of 69 200 m³/d (435,000 b/d) and was supported by 54 100 m³/d (340,000 b/d) of long-term binding contracts. In OH-1-2008, the Board approved an expansion of the original Keystone pipeline. This expansion was referred to as the Cushing expansion and added 24 800 m³/d (156,000 b/d) of incremental capacity to the original Keystone pipeline. Long-term binding contracts supported 24 600 m³/d (155,000 b/d) of the incremental capacity of the Cushing expansion. The Keystone pipeline, together with the Cushing expansion, is referred to as the Base Keystone pipeline. The Base Keystone pipeline, together with the Keystone XL Project, is referred to as the Keystone system (Figure 2-2).

Projects such as the Keystone XL Project require a CPCN under section 52 of the NEB Act which triggers the requirement for an environmental assessment (EA) under the *Canadian Environmental Assessment Act* (CEA Act). Since the Project requires less than 75 km of new right-of-way (RoW), a screening level of environmental assessment under the CEA Act was required.

Figure 2-1
Keystone XL Pipeline Project – Canadian Section

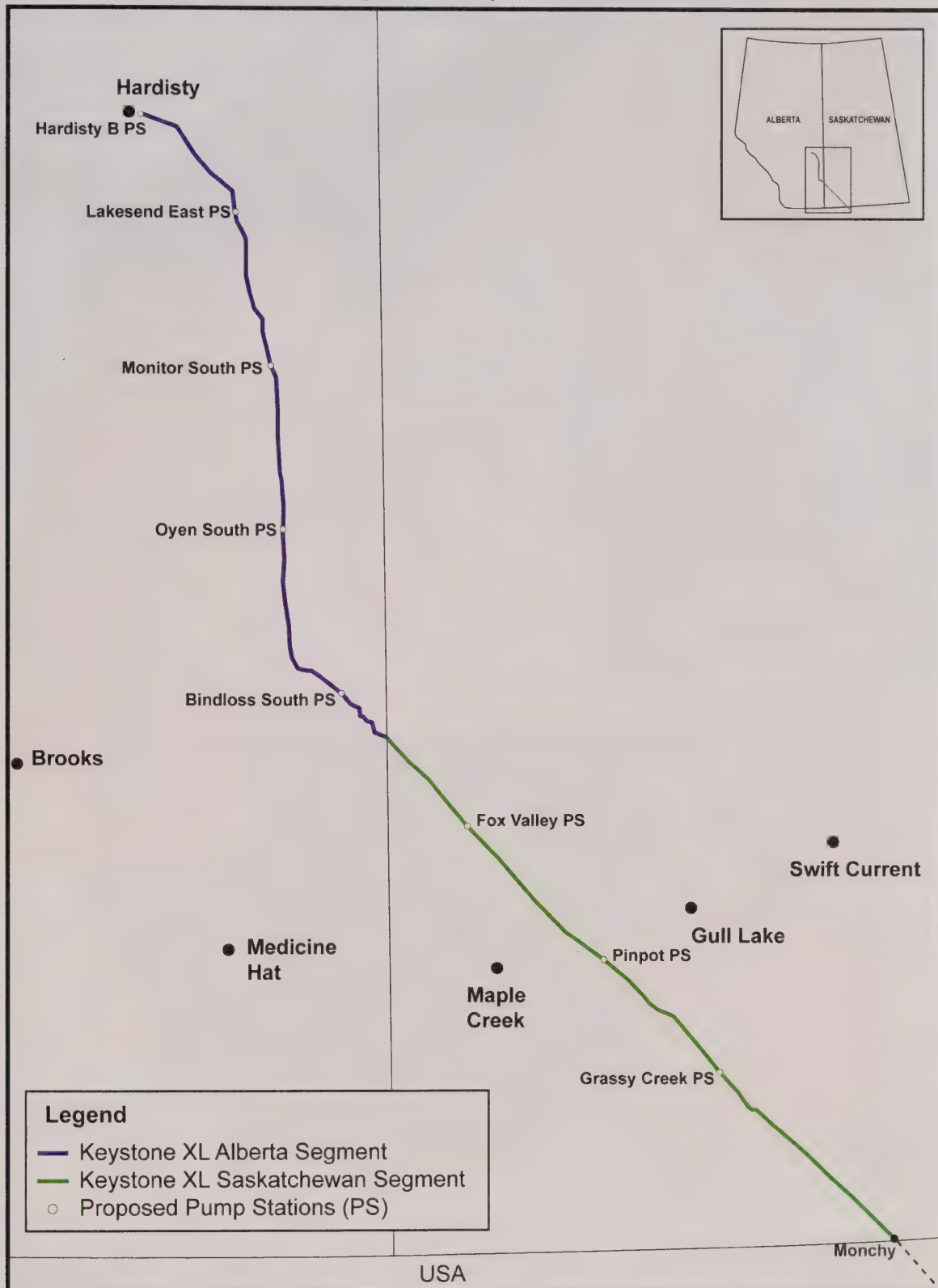
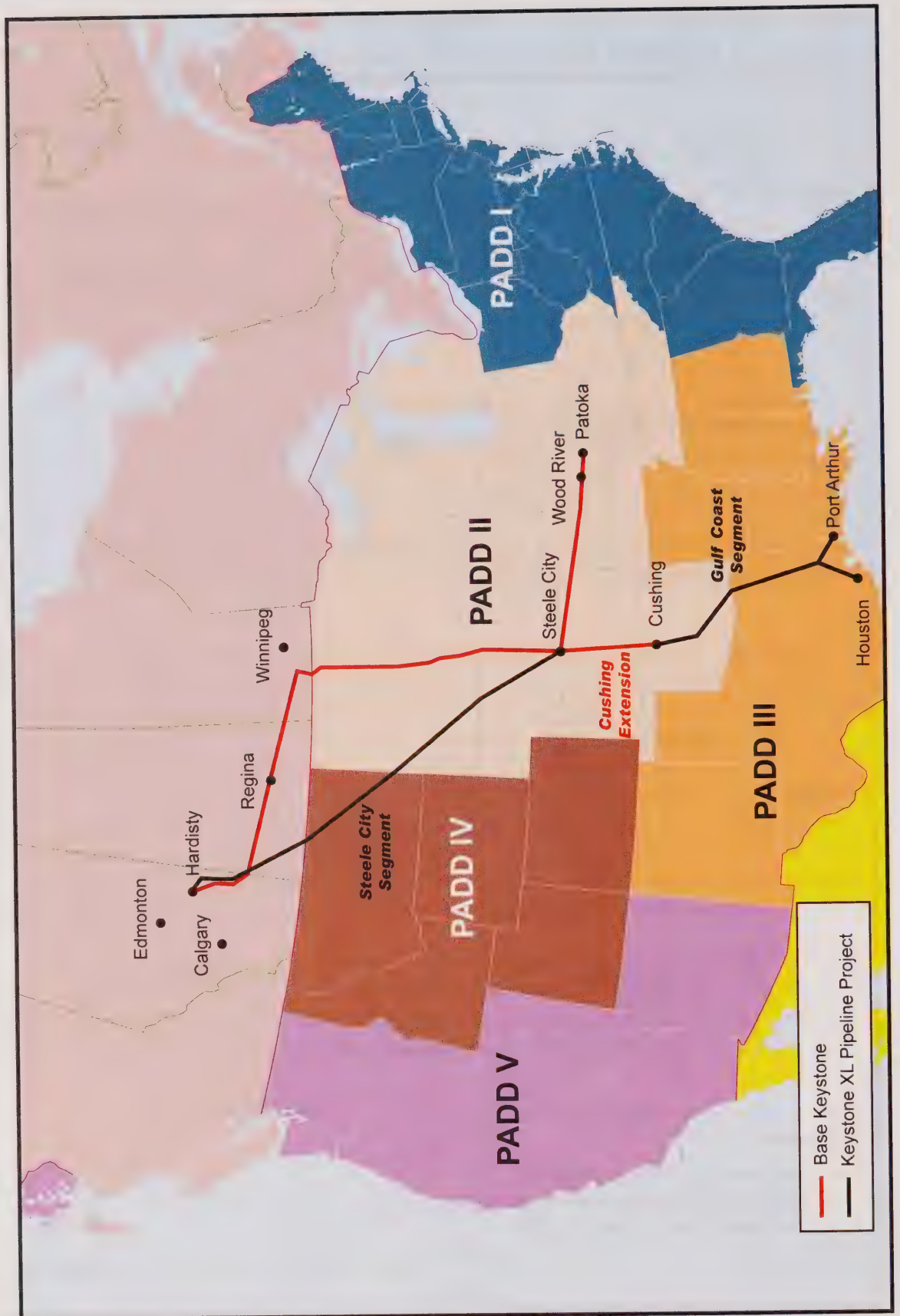


Figure 2-2
Overview of Keystone System



2.2 Regulatory Context

Keystone filed a Project Description (PD) for the proposed Project with the Board on 18 July 2008. The purpose of the PD was to initiate and facilitate an efficient regulatory review of the Project and enable the Board and other federal departments to determine their environmental assessment responsibilities and the scope of the assessment under the CEA Act.

On 27 February 2009, Keystone filed an application with the Board requesting approval to construct and operate the Canadian portion of the Keystone XL Pipeline. Keystone intended to commence construction in 2010 and be completed and in commission in late 2012.

By letter dated 12 May 2009, the Board announced that it would convene an oral public hearing beginning 15 September 2009. Hearing Order OH-1-2009 was attached to the letter and established the procedures to be followed in the hearing. Parties wanting to intervene in the proceeding were given until 9 June 2009 to apply. The Board received 25 intervenor applications by the deadline, and approved 24 of these applications for intervenor status. One application from the Indigenous Environmental Network was denied as it did not provide a description of the party's interest in the Project and was incorrectly filed by email. In addition, the Board received and approved a further five applications for late intervenor status from the Sweetgrass and Moosomin First Nations, Sierra Club Canada (SCC), Communications Energy and Paperworkers Union of Canada (CEP), Red Pheasant First Nation No. 108 and Nekaneet First Nation No. 380.

In the OH-1-2009 Hearing Order, the Board invited parties to suggest any amendments or additions to the List of Issues by 9 June 2009. The Board received comments from Dale and Shirley McInnes (McInnes), the CEP, SCC and Transport Canada.

The concerns raised by these parties related to the following:

- design and location of Pump Stations;
- Canadian energy security;
- promoting sustainable economic development of Canada's energy economy;
- Canada's obligations to reduce greenhouse gas (GHG);
- alternatives to the proposed facilities;
- cumulative environmental and socio-economic effects; and
- potential adverse impacts to potential or established Aboriginal or treaty rights.

The Board responded to parties on 19 June 2009 and advised that it would revise the List of Issues (see Appendix I) to include the following: Potential impacts of the Project on Aboriginal interests. The Board further indicated that no additional amendments or additions to the List of Issues were required as the List of Issues covered all matters raised by parties to the extent that they were relevant to the determination to be made by the Board.

The Board also requested comments from parties on the draft scope of the environmental assessment of the Project through its OH-1-2009 Hearing Order. Comments were received from

Transport Canada requesting that section 2.1 of the scope be changed to reflect the recent changes to the *Navigable Waters Protection Act*. After considering the comments received by Transport Canada, the Board revised the scope of the EA as per the request.

On 7 July 2009, the Board, taking into account the location of the Project and the interests of intervenors, announced the locations of the hearing as Calgary, AB and Saskatoon, SK. On 28 August 2009, the Board requested that the intervenors identify at which hearing location they intended to appear.

Intervenors from the Bindloss, AB, area (i.e. Mr. Daryl Swenson, Mr. Dennis Swenson, Mrs. Mary Swenson and Mr. Creston Anderson) and the McInnes' indicated that they would like to appear in Calgary, AB. Mr. David Staples of Staples Farms had previously withdrawn his intervention for the hearing on 24 August 2009. As the only remaining intervenors located in Saskatchewan were the Sweetgrass First Nation and Moosomin First Nation, and no parties had indicated that they had questions for these intervenors, these intervenors chose to adopt their evidence by way of affidavit, and did not appear at the hearing for that purpose.

Intervenor responses demonstrated little interest in the Saskatoon venue, and therefore the Board announced on 4 September 2009 that the hearing would be held in its entirety in Calgary AB.

On 9 September 2009, Mr. Daryl Swenson, Mr. Dennis Swenson and Mrs. Mary Swenson, of Swenson Farms Ltd, withdrew their interventions, and on 11 September, Mr. Creston Anderson withdrew his intervention and therefore were no longer participants in this proceeding.

The oral portion of the hearing was held in Calgary, AB from 15 to 18 September, 21 to 25 September, and 1 to 2 October 2009, for a total of 11 hearing days.

As a Responsible Authority under the CEA Act, the Board completed an Environmental Screening Report (ESR) pursuant to the CEA Act. The ESR is provided as Appendix IV. Further discussions of environmental matters are discussed in Chapter 10 of these Reasons.

Chapter 3

Economic Feasibility

The Board must consider the justification for and economic feasibility of a proposed pipeline project. To do this the Board decides whether the facilities are needed and would be used at a reasonable level over their expected economic life. Applicants must provide the Board with evidence on:

- the supply of commodities that would be shipped on the pipeline;
- the nature of the markets that would receive the products delivered by the pipeline;
- the capability of existing transportation infrastructure to meet the need that the Applicant has identified;
- the financial arrangements for the construction and ongoing operations of the proposed project; and
- whether there is a reasonable likelihood that tolls on the pipeline will be paid.

3.1 Crude Oil Supply

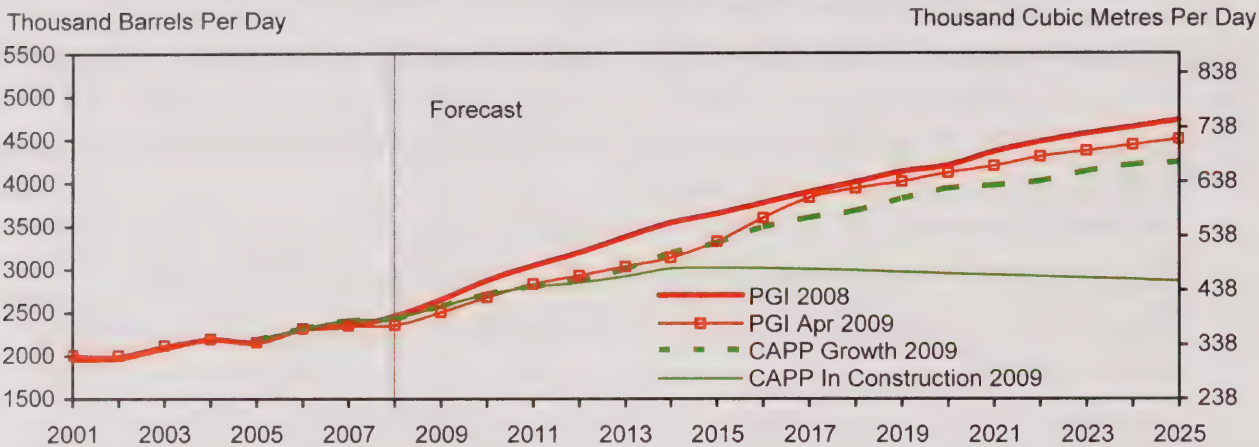
In support of its application, Keystone submitted evidence on crude oil supply in western Canada in a report prepared by Purvin & Gertz Inc. (PGI). In this report, dated 13 February 2009, PGI used its 2008 forecast for western Canada supply as a basis for its analysis. Given the significant changes to the economic environment that occurred since 2008, however, the Board requested that Keystone provide an update to its supply and markets evidence. An updated Supply and Markets report was filed as additional written evidence on 18 June 2009. The following discussion refers primarily to the most recent evidence provided by Keystone.

Keystone submitted that western Canada has substantial oil reserves due mainly to bitumen in oil sands. Keystone referred to the Canadian Association of Petroleum Producers (CAPP) estimated remaining established reserves of conventional crude oil and pentanes plus in western Canada of 585.8 million cubic metres (3.68 billion barrels) at December 31, 2006. Keystone also referred to Alberta's Energy Resources Conservation Board (ERCB) estimated remaining established reserves of crude bitumen in oil sands of 27.45 billion cubic metres (172.7 billion barrels) at the end of 2007. Keystone noted that the crude bitumen reserves are equivalent to 356 years of production at an annual bitumen production rate in 2007 of 77 million cubic metres (484 million barrels).

In its updated report, PGI projected continued growth in western Canadian crude oil supply, but at a rate lower than originally forecast. For its revised forecast, PGI considered oil sands project cancellations and deferrals, as well as the impact of a period of low crude oil prices adversely impacting future oil sands investment. Overall, the forecast projected a slowdown, but not a stoppage, in oil sands growth in 2012 to 2014 due to project decisions in 2008 and 2009, but some recovery in the 2015-2017 period. Total western Canadian supply was projected to rise from 365 700 m³/d (2.3 MMb/d) in 2006 to 476 900 m³/d (3.0 MMb/d) in 2013. By 2020, the

end of the forecast period, supply was forecast to grow to 650 800 m³/d (4.1 MMb/d) (Figure 3-1).

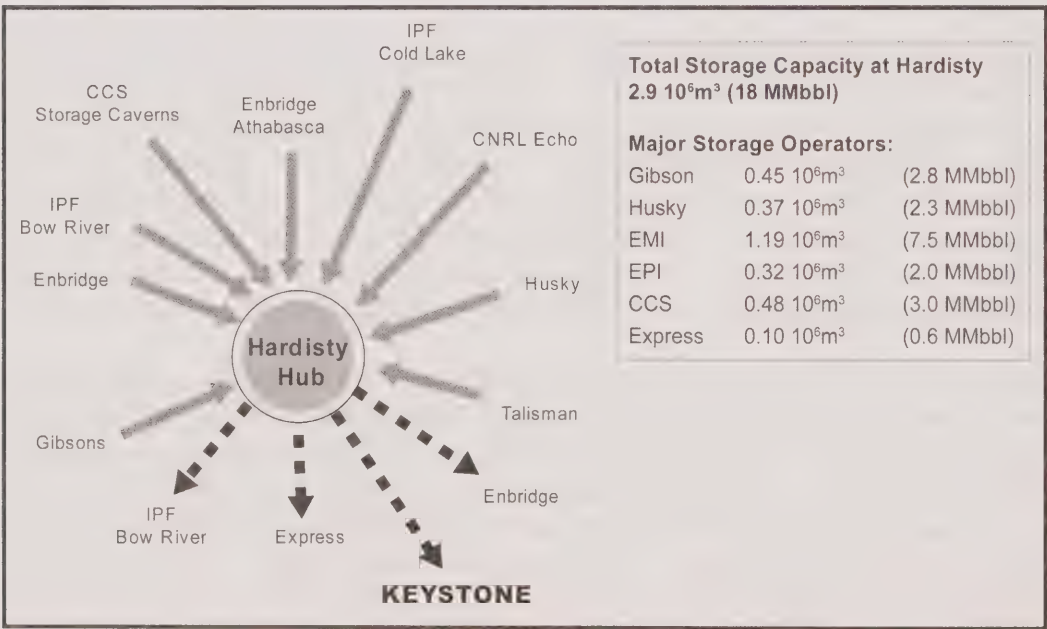
Figure 3-1
Western Canada Crude Supply Forecast Comparison



Keystone noted that the PGI April 2009 forecast is similar to CAPP’s Growth 2009 forecast, until 2015, and then it is higher. The PGI western Canadian oil supply forecast submitted by Keystone was not contested by parties.

In addition to its crude oil supply outlook, Keystone provided evidence regarding access to upstream supplies. Keystone noted that Hardisty, AB is a major hub for the western Canadian petroleum industry and is connected to pipelines from Edmonton, Cold Lake, Lloydminster and Fort McMurray, AB. (Figure 3-2)

Figure 3-2
Hardisty Infrastructure



Keystone noted that there is total inbound pipeline capacity to Hardisty of approximately 445 000 m³/d (2.8 MMb/d), with additional volumes supplemented by rail and truck. It submitted that the Hardisty area has storage capacity of approximately 2.9 million cubic metres (18 million barrels). Keystone stated that this very liquid trading hub would provide the Keystone XL Pipeline with access to a wide variety of light and heavy crude supply for shipment to the United States Gulf Coast (USGC) market.

3.2 Transportation

Keystone Pipeline Capacity

Keystone submitted that the Keystone XL Pipeline would expand and complement Base Keystone, and that all Keystone system facilities would be operated on an integrated basis. Keystone submitted, however, that the Keystone XL Pipeline is not an expansion of existing infrastructure in a conventional sense, such as a line looping project or an increase of capacity on an existing line through the addition of pumps, but a bullet line facility designed primarily to satisfy volume requirements in the USGC market and operate effectively and efficiently as one part of an integrated system.

The Keystone XL Pipeline would have an initial nominal capacity of 111 300 m³/d (700 Mb/d), which would provide 79 500 m³/d (500 Mb/d) of incremental capacity to the USGC and 31 800 m³/d (200 Mb/d) of capacity to Cushing, Oklahoma (OK) via the Cushing Extension. Keystone indicated that once the Keystone XL Pipeline is in service, the Cushing Expansion facilities approved by the Board in OH-1-2008 would be required to deliver committed and spot volumes to Wood River and Patoka, Illinois (IL), and to deliver to Cushing and the USGC in the event that the capacity on the Keystone XL Pipeline is either partially or totally unavailable.

Keystone stated that, within the Keystone Pipeline System, there are four proposed US delivery points: Wood River, IL; Patoka, IL; Cushing, OK; and Port Arthur, TX. It indicated that contract shippers have each designated one of these delivery points as the primary delivery point under the transportation service agreements (TSAs). Table 3-1 provides an overview of the Keystone Pipeline System.

Table 3-1
Keystone Pipeline System

	Capacity	Contracted
Base Keystone	69 200 m ³ /d	54 100 m ³ /d
OH-1-2007	(435 Mb/d)	(340 Mb/d)
Keystone Cushing Expansion	24 800 m ³ /d	24 600 m ³ /d
OH-1-2008	(156 Mb/d)	(155 Mb/d)
Keystone XL	111 300 m ³ /d	60 400 m ³ /d
OH-1-2009	(700 Mb/d)	380 Mb/d
Total System	205 200 m ³ /d	139 100 m ³ /d
	(1,291 Mb/d)	(875 Mb/d)

Keystone submitted that the design of the Keystone system mitigates the risk of economic loss for each of the Keystone committed shippers, the uncommitted shippers and Keystone by providing operational flexibility to deal with pipeline outages. Keystone stated that both committed and uncommitted Keystone XL shippers could be partially served by the Base Keystone system in the event of an outage on the portion of Keystone XL upstream of Steele City. Additionally, Wood River/Patoka shippers could be partially served through the Keystone XL Pipeline system, through operational tanks at Steele City, in the event of an outage on the Base Keystone system upstream of Steele City. Keystone submitted that the current design and the associated flexibility helps ensure that overall shipping commitments, to the extent possible, are maintained on both systems in the event of operational upsets.

Keystone noted that it is at-risk for non-contracted capacity on the Keystone Pipeline System and stated that it has an incentive to optimize the efficiency and overall utilization of the Canadian portion of the system.

Diversion Rights

Keystone stated that contract utilization relative to nominal capacity could also be affected by shippers taking advantage of diversion rights. Diversion rights refer to the ability of a firm shipper to nominate to an alternate delivery point on the Keystone Pipeline System from the delivery point specified in its contract. All contracted Keystone shippers would have diversion rights, including both Cushing and USGC shippers, who could choose to nominate volumes to alternate delivery points at Wood River/Patoka instead of their primary contract delivery point, in order to meet a discrete business need or market demand. Keystone indicated that spot shippers would also have the ability to nominate to any of the U.S. delivery points.

Keystone stated that there are no clause(s) addressing alternate delivery point nomination rights for shippers in any of the Canadian or American TSAs, including Base Keystone, Cushing Extension and Keystone XL. The rights to nominate to an alternate delivery point are proposed only in the Keystone U.S. Petroleum Rules and Regulations (Keystone U.S. Tariff) for U.S. contract shippers for ultimate Keystone delivery points in the U.S. Keystone indicated that it would be difficult to predict when and how U.S. contract shippers would nominate to alternate delivery points.

Western Canada Sedimentary Basin Export Pipeline Capacity

Keystone provided information regarding estimated pipeline capacity in place to export western Canadian crude oil for the year 2012; (Table 3-2) including Enbridge Pipelines Inc. (Enbridge), Trans Mountain Pipeline, Milk River, Rangeland, Express and Base Keystone to Wood River and Patoka and the Cushing Expansion. Overall, Keystone estimated export pipeline capacity for total crude at 598 100 m³/d (3.75 MMb/d), of which 260 100 m³/d (1.63 MMb/d) was for light crude and 338 100 m³/d (2.12 MMb/d) was for heavy crude.

Table 3-2
Capacities of Export Pipelines for Canadian Crudes: 2012

	(Thousand Barrels Per Day)			(Thousand Cubic Metres Per Day)		
	Light	Heavy	Total	Light	Heavy	Total
Enbridge ¹						
Line 1 ^a	77		77	12.2		12.2
Line 2 ^b	440		440	70.0		70.0
Line 3 ^{b,c}	500		500	79.5		79.5
Line 4 ^b		880	880		139.9	139.9
LSR ^d	186		186	29.6		29.6
Clipper ^b	-	450	450	-	71.5	71.5
Subtotal^e	1,203	1,330	2,533	191.3	211.4	402.7
Express ²	94	188	282	14.9	29.9	44.8
TransMountain ³	85	85	170	13.5	13.5	27.0
Milk River ⁴	5	113	118	0.8	18.0	18.8
Rangeland/Aurora ⁴	50	15	65	7.9	2.4	10.3
Keystone ⁵						
Phase 1-A & B	197	393	590	31.3	62.5	93.8
Total	1,634	2,124	3,758	259.7	337.7	597.5
95% of Total	1,552	2,018	3,570	246.7	320.9	567.6

- Notes:
- 1 Enbridge sources below. Crude capacities ex Cromer, Manitoba.
 - a Enbridge Pipeline System Configuration, March 2006 for total capacity = 237,000 B/D (37.6 10³m³/d). Crude capacity is reduced by delivery of refined products and natural gas liquids assumed at 160,000 B/D (25.4 10³m³/d).
 - b Enbridge Appendix 14 in Reponse to Information Request 14 of Communications, Energy & Paperworkers Union (CEP) at NEB hearing OH-4-2007, re Clipper.
 - c Source (b) includes change in Line 3 service from heavy crude to light crude
 - d Enbridge Facility Application for Southern Lights Vol. 1, pg 2-3, February, 2007 (NEB hearing OH-3-2007)
 - e Enbridge subtotal assumes sufficient takeaway capacity from Superior to Chicago and Marysville.
 - 2 Source: Kinder Morgan website/business/Canada for total crude capacity. Express heavy crude assumed = 2/3 of total crude.
 - 3 Source: Terasen Pipelines Inc. Facility Application for Trans Mountain Pipeline Anchor Loop, pg 2-4, Feb. 17, 2006. For total capacity = 300,000 B/D (47.7 10³m³/d). Export capacity is reduced by domestic delivery of light crude and refined products assumed at 130,000 B/D (20.7 10³m³/d). TransMountain crude capacity assumed at half light crude for Washington.
 - 4 Purvin & Gertz estimates
 - 5 Keystone heavy assumed at 2/3 of total crude.

In order to determine the requirement for additional pipeline capacity from western Canada, Keystone submitted the PGI analysis, which used an annualized pipeline service factor of 95 percent of capacity, and export projections based on the crude oil supply forecasts, less the disposition forecast for western Canada. Based on its own supply forecast, the PGI analysis concluded that additional pipeline capacity for total crude would be needed around 2020. (Figure 3-3) Based on the CAPP Growth 2009 forecast, exports are slightly lower in 2020, delaying the need for pipeline capacity for approximately another two years.

PGI stated that pipeline capacity depends in part on the properties of the commodities being shipped on the pipelines. Compared with light crude oil, heavy crude reduces pipeline capacity. In this connection, PGI concluded that additional heavy crude pipeline capacity would be needed by 2015 - 2016 to accommodate forecast heavy crude supply. The CAPP Growth 2009 forecast suggests the need for more pipeline capacity for heavy crude would arise around 2018. (Figure 3-4)

Figure 3-3
Total Crude Exports vs. Pipeline Capacity

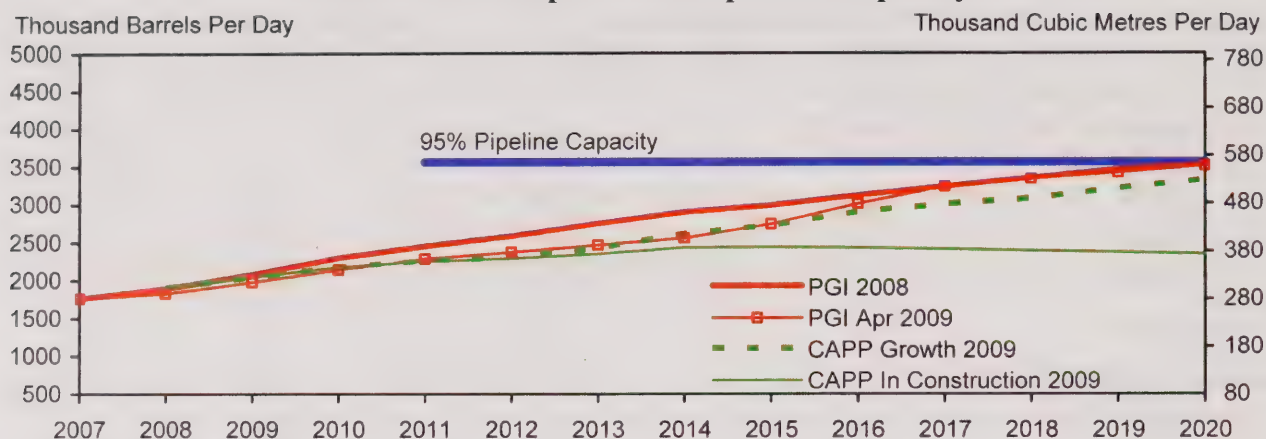
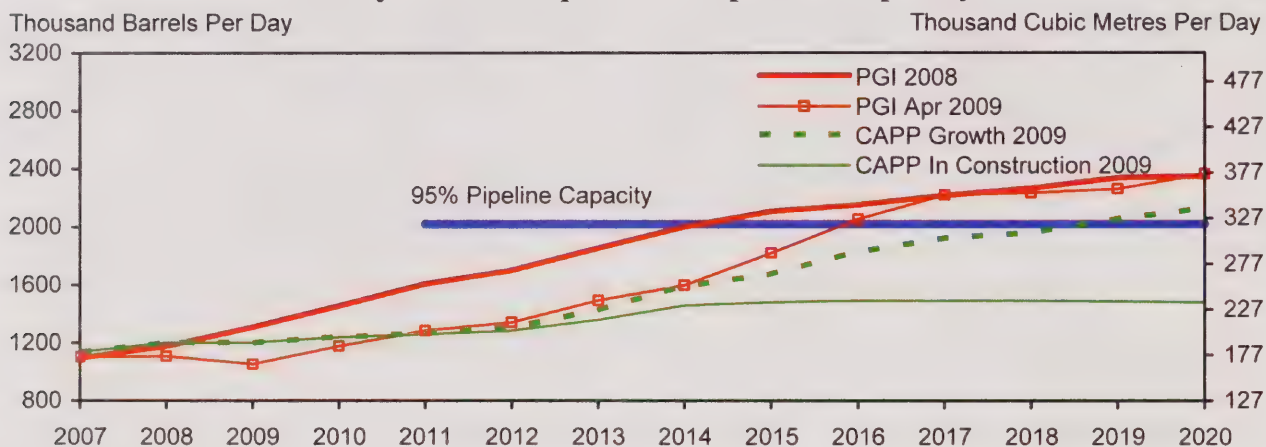


Figure 3-4
Heavy Crude Exports vs. Pipeline Capacity



Keystone submitted that some degree of excess pipeline capacity is desirable to allow flexibility for shippers to react to changes in market conditions. It stated that the appropriate level of excess capacity depends on the markets served by that pipeline capacity, the configuration and flexibility of the pipeline systems, the number of different owners and operators of those pipeline systems, and how the systems are managed. Keystone indicated that an appropriate level of excess capacity would perhaps be 20 to 25 per cent.

Keystone submitted that no excess capacity currently exists between western Canada and the USGC. Currently, western Canadian crude oil can access the USGC only indirectly through the Pegasus Pipeline, which has a capacity of less than 15 900 m³/d (100 Mb/d). Keystone submitted that it is pursuing the Keystone XL Pipeline in response to its shippers who want to have access to the USGC in the 2012 timeframe.

3.3 Markets

The USGC is located in PADD III, which includes the states from New Mexico to Mississippi. Keystone submitted that PADD III has the largest refining system in the world, with approximately 1.3 million m³/d (8.4 MMb/d) of crude refining capacity, mainly at the USGC in Texas and Louisiana.

Keystone submitted that the large PADD III market currently accesses very little Canadian crude oil, even though refineries in this market have a large coking capacity and can process significant amounts of heavy crude oil similar to Canadian bitumen blends. Imports of crude oil to the USGC will likely increase due to rising demand by U.S. refineries and the decline of U.S. domestic supply. As well, traditional supply sources of heavy crude for the USGC including Mexico and Venezuela are declining, as a result some USGC refiners are seeking to diversify their supply sources by obtaining access to western Canadian crude.

The Keystone XL Pipeline could deliver Canadian crudes to 15 refineries, situated near Port Arthur and Houston, as well as Texas City and Lake Charles, Louisiana. (Table 3-3) By 2011, the total refining market available to the Keystone XL Pipeline would be 684 000 m³/d (4.3 MMb/d). PGI's evidence was that the USGC market could absorb at least an incremental 79 500 m³/d (500 Mb/d) of Canadian crude, representing approximately 12 per cent of the crude capacity of the refineries in the Port Arthur, Houston, Texas City and Lake Charles areas.

Table 3-3
USGC Refining Market Available to the Keystone Pipeline

Refinery	m ³ /d (x 1,000)	b/d (x 1,000)
Valero Energy, Port Arthur	45.9	289
Motiva Enterprises, Port Arthur	45.3	285
Motiva Enterprises Expansion, Port Arthur ¹	51.7	325
Total Petrochemicals, Port Arthur	36.9	232
ExxonMobil Corp, Beaumont	55.4	349
Subtotal: Port Arthur Area	235.2	1,480
Valero Energy, Houston	13.2	83
Houston Refining (Lyondell), Houston	43.1	271
Pasadena Refining, Pasadena	15.9	100
Shell Deer Park, Deer Park	52.5	330
ExxonMobil Corp, Baytown	90.1	567
Subtotal: Houston Area	214.8	1,351
BP, Texas City	76.0	478
Marathon Oil, Texas City	12.1	76
Valero Energy, Texas City	31.8	200
Subtotal: Texas City Area	119.9	754
Calcasieu Refining, Lake Charles	8.4	53
CITGO, Lake Charles	68.3	430
ConocoPhillips, Lake Charles	38.0	239
Subtotal: Lake Charles Area	114.7	722
Total Refining Market	684.6	4,307

1 This expansion is planned to be complete by 2012.

Heavy crude runs for the target refineries in Table 3-3 were estimated by PGI at 227 700 m³/d (1.43 MMb/d) for 2007, nearly all of which were imported. Additionally, light crude runs in

2007 were estimated at 294 000 m³/d (1.85 MMb/d), of which 248 600 m³/d (1.57 MMb/d) were imported.

3.4 Shipper Commitments and Project Financing

3.4.1 Shipper Commitments

In the summer of 2008, Keystone conducted an open season for the subscription of firm transportation service on the proposed Keystone XL Pipeline. As a result of the open season, Canadian Natural Resources (CNRL), EnCana, Shell Marketing Canada, Trafigura Canada General Partnership, ConocoPhillips Canada Limited (ConocoPhillips), Total E&P and Valero Energy Corporation (Valero) executed TSAs totaling 60 400 m³/d (380 Mb/d), for an average term of 17 years.

Keystone submitted that the TSAs demonstrate material endorsement and commercial support for the Project, as well as the need for incremental pipeline capacity and market access to the USGC for Canadian crude oil producers and USGC refiners.

Keystone advised that in consideration of the changing market, in 2009 it sought and reaffirmed each shipper's support for the Project.

3.4.2 Project Financing

In its application, Keystone stated that it would obtain the funds required for the construction of the \$1.7 billion Project from its partners, their affiliates, and their parent companies, TransCanada Corporation and ConocoPhillips. On 16 June 2009, TransCanada Corporation announced it would acquire ConocoPhillips' interest in the pipeline and become the sole owner of the Keystone Pipeline System; on 14 August 2009 the transaction was completed. Keystone submitted that its acquisition of sole interest in the pipeline did not affect the financial risk of the Project or Keystone's ability to fully finance the capital expenditures required to place the Keystone XL Pipeline into service. The funds required to finance the Project would be obtained through a combination of internally generated cash flow, and debt and equity raised from banks and the American and Canadian capital markets.

No party raised concerns about either the proposed method of financing or on the ability of Keystone's ultimate parent company, TransCanada Corporation, to finance the construction of the applied-for facilities.

Views of the Intervenor

The Board notes that no party filed evidence contravening Keystone's assessment of Western Canada Sedimentary Basin (WCSB) supply or the USGC market. Areas of contention related chiefly to elements of Keystone's evidence dealing with transportation matters.

Keystone XL Shippers Group (KSG)

KSG stated that the best evidence of the need for the Keystone XL Pipeline lies in the contracts that the Keystone shippers have signed, and the fact that Keystone has accepted the risk of any underutilization. In addition, KSG noted that several of Keystone's shippers are among the largest crude oil producers in Canada who have invested further billions of dollars in production infrastructure as part of global production strategies. The KSG submitted that such a demonstration of shipper support to access a new market is a compelling indicator of the public interest.

Valero Marketing and Supply Company

Valero stated that it wants to have the opportunity to buy crude oil from the Canadian oil sands and believes that pipeline capacity to the USGC is required. Valero described the WCSB as a potentially plentiful source of heavy crude oil that is produced in a politically stable and friendly environment.

Valero submitted that the USGC is a strong market for crude oil from the WCSB, and that its own USGC refineries alone represent a potential market of 119 000 m³/d (750 Mb/d) of heavy crude oil. Valero submitted that it did commit to ship a meaningful volume of WCSB heavy crude oil on the Keystone XL Pipeline over several years.

Enbridge

Enbridge acknowledged the importance of providing western Canadian oil producers with sufficient transportation capacity to serve both traditional and new markets and that the USGC represented a large and attractive market for western Canadian crude oil.

Enbridge submitted, however, that the economic environment has changed dramatically since the summer of 2008, when Keystone held its open season. Forecasters have predicted a much slower rate of growth in western Canadian crude oil production and, with the major oil pipeline projects that are currently under construction, there will be ample take-away capacity from western Canada to U.S. markets for several years after 2012.

Enbridge submitted that the Keystone XL Pipeline project would create an unnecessary and unprecedented level of excess pipeline capacity between western Canada and U.S. markets. In the current circumstances, Keystone can utilize existing pipeline facilities in Canada as part of the Keystone XL project and avoid unnecessary pipeline construction. This would result in a greater benefit to Canadian oil producers, and would be in the overall Canadian public interest.

Enbridge also argued that the Keystone XL Pipeline was designed with unnecessary excess capacity relative to its contracted volumes. Enbridge expressed concern that once the Keystone XL Pipeline is in service, the Cushing Expansion facilities approved by the Board in OH-1-2008 would not be required for the stated purpose for which they were authorized.

Finally, Enbridge submitted that although the open season was not flawed, parties who had entered into and participated in the Keystone XL Pipeline open season in the summer of 2008 would not have done so today. The changed circumstances, and in particular the resulting

impact on the expected growth of crude oil production from the WCSB, would have a dramatic effect on any analysis conducted to support a new pipeline.

BP Canada Energy Company (BP)

BP argued that the Keystone XL Project was not consistent with the current realities of crude oil supply, demand and transportation markets. It said that the Keystone XL Pipeline is designed with too much capacity and is being put in place too early.

In BP's view, the Board should not assume that the Keystone shipper contracts are a reasonable reflection of current or even forecast markets, and the Board should be concerned as to whether the Keystone XL Project is now being driven by market requirements, or by contract obligations.

Imperial Oil Limited (Imperial)

Imperial stated that the Keystone XL Project should be denied in part because no new capacity is required, or will be required, for some time. For the Board to determine that the Keystone XL Pipeline is economically feasible, Keystone must demonstrate that the pipeline would cover its costs and earn a reasonable rate of return. Imperial argued that Keystone XL does not meet that test since its TSAs pay only for the capital of the Project. In order to realize any return on its investment, Keystone would have to take volumes from other Canadian cost-of-service systems, which would have a significant impact on cost-of-service shippers, such as Imperial.

Imperial stated that it fully supports building infrastructure to open new markets; however, it does not support doing so at all costs.

Nexen Inc. (Nexen)

Nexen did not dispute the desirability of the USGC market, but indicated its concern that the evidence showed that new western Canada export capacity would not be required until the 2020 timeframe.

In Nexen's view, the world has changed since the KSG executed the Keystone XL TSAs, and while the contracts may have indicated sound market fundamentals in a robust market, they may not do the same in a different market. Nexen suggested that the contracts be viewed with skepticism in their role as a market signpost.

Suncor Energy Marketing Inc. (Suncor)

Suncor supported approval of the proposed Keystone XL Pipeline project; however, it expressed concerns that the segment from Hardisty to Steele City is not required within the timeframe proposed by Keystone. Suncor submitted that the Board should approve the proposed Keystone XL Pipeline in a timeframe that allows for the Cushing to USGC portion to be completed by 2011 and the Hardisty to Steele City portion to be completed in a manner that does not result in an overcapacity issue for the whole industry.

Views of the Board

The Board must be satisfied that there will be adequate supplies of crude oil available so that the facilities can be justified over the economic life of a project.

Keystone submitted that western Canadian crude oil supply has grown significantly and although growth from the oil sands has slowed, it will continue to grow over the forecast period. The Board notes that Keystone's supply forecast is similar to those prepared by CAPP and the ERCB and was not challenged during the proceedings.

The Board recognizes the uncertainties associated with the forecasts of crude oil supply available to the Keystone XL Pipeline; however, it accepts as reasonable the crude oil supply projections submitted by Keystone. This growing supply profile is supported by Alberta's substantial oil sands reserves and western Canada's conventional light and heavy oil reserves. Together with the supply committed to the Keystone XL Pipeline, the Board is satisfied that there will be sufficient supply available.

The Board is also satisfied that there is an adequate market to absorb the volumes that will be delivered off the Keystone XL Pipeline. No party disputed that the USGC is a large, long term and strategic market for Canadian crude oil. The Board is of the view that the refining area to be supplied by the Keystone XL Pipeline holds strong potential for Canadian crude oil producers. The opening of new markets for Canadian crude oil would alleviate the economic risk associated with saturation in traditional markets.

While it was demonstrated that there may, for some time, be physical excess pipeline capacity for western Canadian crude oil exports, the Board agrees with Keystone's assessment that no excess capacity currently exists connecting western Canada and the USGC. At this time, Canadian producers can only access the large PADD III market indirectly, through the relatively small Pegasus Pipeline. The Board considered Suncor's argument that it should approve the proposed Pipeline in a time frame to allow the Cushing to USGC portion to be completed by 2011 and the Hardisty to Steele City portion to be completed in a manner that does not result in export pipeline overcapacity. However, the Board was not persuaded as Suncor did not provide the Board with evidence on the feasibility of this concept. The issue of excess pipeline capacity is further addressed in Chapter 4, Commercial Impacts.

The Board notes the perspective of some intervenors that the Keystone XL Pipeline has been designed with too much capacity relative to its contracted commitments, and in consideration of western Canada export

capacity overall. The Board is of the view, however, that prudent design must consider both the current and future requirements for transportation service over the life of a Project to achieve the objective of efficiency. The Board is satisfied that the Keystone XL Pipeline, as proposed, reflects a reasonable balance of both the current and anticipated requirements of shippers over the longer term, given the supply potential of the WCSB and the size of the USGC market.

The Board considers the existence of long-term transportation agreements to be strong evidence for the need for the Keystone XL Pipeline. There is industry support to access the USGC market through the binding agreements to ship 60 300 m³/d (380 Mb/d) of crude oil for an average of 17 years. The significant financial commitments made by shippers through the TSAs indicate to the Board that the USGC will likely prove to be a profitable long-term market for Canadian crude oil. The Board is not persuaded by the arguments of some intervenors that the contracts should be viewed with skepticism in light of changes to the economic environment that have occurred since their execution. In 2009, Keystone received reaffirmation from its committed shippers to proceed with the Keystone XL Project in the 2012 timeframe.

The Board finds the proposed method of financing to be reasonable and accepts that Keystone's ultimate parent company has the ability to finance the construction of the Project and place it into operation.

Therefore, the Board finds that the Keystone XL Pipeline is economically feasible; that the applied-for facilities are likely to be used at a reasonable level over the economic life of the Project; and that the tolls are likely to be paid.

Chapter 4

Commercial Impacts

In making a determination on impacts of a project on commercial third parties the Board considers (i) the potential impact of the pipeline on competition and on netback prices to oil producers; (ii) the potential impacts on existing pipeline infrastructure; and (iii) potential impacts on the Alberta upgrading and Canadian refining industries.

4.1 Competition and Netbacks

4.1.1 Competition

Views of Keystone

Keystone maintained that the Keystone XL Pipeline application was about competition and new market access and stated that functioning and competitive markets are in the overall public interest.

Keystone submitted that if the Board were to deny or delay the application, it would frustrate the commercial arrangements entered into between Keystone and Keystone XL shippers, effectively eliminating competition. It argued that it would also result in Keystone losing the benefits of the negotiated project it has achieved through a competitive process to provide transportation to the USGC. Keystone also advised that its shippers would be disadvantaged and potentially exposed to financial losses, despite having entered into TSAs in good faith on the basis of a fair and transparent competitive process.

Keystone stated that denial or delay of the Keystone XL application would also create the opportunity for any competitor, but particularly Enbridge, to obtain an overwhelming competitive advantage in its ongoing efforts to serve the USGC market. Keystone argued that the longer the delay, the more Enbridge's competitive position would be enhanced.

Keystone also argued that denial or delay of the Keystone XL Project would send a message that incumbents enjoy an inherent advantage over new entrants. The market signal would be that in the face of changing supply forecasts, incumbents have the right to transport incremental supply notwithstanding the existence of freely negotiated transportation arrangements by which supply is committed to an alternate system. This would create an artificial barrier to entry for new competitors.

Keystone submitted that this was not a case of insufficient supply for the pipeline, as suggested by some intervenors, but rather that if Keystone XL is approved there would be competition for supply growth in the future.

Views of the Intervenor

KSG

The KSG agreed that the Keystone XL application is about competition, access to markets, and free and open decisions about how markets are accessed, and the support provided by those seeking to pay for service to those markets.

KSG submitted that the relevant factors are competitive dynamics, because it is an application for a pipeline that (1) would compete with existing pipelines for crude volumes; (2), would allow USGC refiners to compete for Canadian crudes; and (3) is vigorously opposed by a competitor.

Valero

Valero stated that it did not make the decision to support the Keystone XL pipeline lightly; it considered commercial terms, the regulatory environment and the benefits of the Project. Valero indicated that it decided to support the Project because it offered the best overall solution for its Port Arthur refinery.

Enbridge

Enbridge stated that its proposition to utilize existing pipeline infrastructure as part of the Keystone XL Project was about public interest considerations such as promoting efficient energy infrastructure, and minimizing environmental impacts.

Enbridge submitted that its proposition was consistent with the outcome of the competition to serve the USGC. The transportation by others arrangement that it proposed also respected this competitive outcome, since Keystone would be providing service to Keystone XL shippers from Hardisty to the USGC.

Kinder Morgan

In its letter of comment, Kinder Morgan indicated that it was not opposed to the Keystone XL Project, and acknowledged that once the Keystone XL Pipeline is operational both the Trans Mountain and Express systems would compete with it for Alberta crude oil supply destined for U.S. markets. Kinder Morgan wished to inform the Board of its view, however, that approval of the Keystone XL Pipeline would pose challenges related to the coexistence of contracted and cost of service based tolls.

Kinder Morgan proposed that the NEB be open to all cost of service (COS) toll-regulated pipelines charging negotiated contract and/or market based tolls to promote proper competition and fairness in the market.

BP

BP acknowledged that customer choice is important and should be accommodated where it is reasonable to do so. It cautioned, however, that acceding to customer choice for the sake of

choice has the potential to add and shift costs among consumers without regard to long-term use, efficiency or the public interest.

Nexen

Nexen stated that it favours healthy competition between pipelines, but is opposed to excessive overbuilding because of the toll consequences.

Imperial

Imperial stated that it fully supports competition in pipeline markets; however, it does so only if that competition is fair. Imperial argued that approval of the Keystone XL Pipeline would result in an uneven playing field in the marketing of Keystone XL's uncommitted capacity. In the absence of new production, it argued that the Keystone XL Pipeline would cause offloading of crude oil volumes from existing cost of service pipeline systems, and given regulatory constraints, competition for uncommitted volumes between Keystone XL and those pipelines would be inherently unfair.

4.1.2 Netbacks

The netback price of a barrel of crude oil is calculated by taking the revenue that producers receive for that oil and subtracting all the costs associated with getting that crude oil to a market.

The Keystone Application included a supply and markets assessment prepared by PGI. The PGI assessment included an analysis of Canadian crude oil pricing related to the Keystone XL Pipeline. PGI explained that producers would benefit from the Project because it would help avoid a return to discounted heavy crude oil export prices that have occurred in the past, and help to sustain strong prices in the U.S. Midwest and Hardisty, AB markets.

PGI indicated that historical price discounts at the USGC suggest that the supply of Canadian heavy crudes has exceeded demand in traditional markets. Existing markets for Canadian heavy crude, principally PADD II, are currently oversupplied, resulting in price discounting for Canadian exports of heavy crude oil. It further stated that access to the USGC via the Keystone XL Pipeline is expected to strengthen Canadian crude oil pricing in PADD II by removing over supply.

Since 2006, the price of Cold Lake Blend has been discounted compared with the price of Mexican Maya heavy crude oil at the USGC. This price discount suggests that the supply of Canadian heavy crudes has exceeded demand in their main markets north of the USGC. PGI submitted that in 2008, the average discount for Cold Lake Blend at the USGC was approximately US\$3.24 per barrel. It indicated that by increasing market access for Canadian heavy crudes, this discount should be avoided in the future. If the Keystone XL Pipeline causes the USGC price discount to be eliminated, PGI estimated the annual revenue increase to the Canadian producing industry at US\$2.0 billion. In addition, if the Keystone XL Pipeline causes the Midwest price to rise above USGC parity, the annual revenue to Canadian producers could increase by a further US\$1.9 billion, reaching approximately US\$3.9 billion.

In April 2009, PGI completed an updated forecast projecting continued growth in crude oil supply, but at a lower rate than that previously forecast (see Chapter 3). Due to lower supply volumes, PGI submitted that the increase in revenue to Canadian heavy crude oil producers in 2013 would decrease from the earlier estimate of US\$2.0 to US\$3.9 billion to US\$1.8 to US\$3.4 billion.

PGI acknowledged that there could be pipeline costs which might offset the forecast revenue benefits. Based on a report provided by Enbridge, PGI estimated total pipeline costs to be approximately US\$1.4 billion in 2013, comprising the Keystone XL Pipeline toll paid on the contracted volumes of 60 400 m³/d (380 Mb/d) and the Enbridge projected toll increase applied across all non-contracted western Canadian oil exports. Adjusting its estimated gross benefit to producers of US\$1.8 to US\$3.4 billion, PGI calculated the net benefit to Canadian producers at US\$0.4 to US\$2.0 billion in 2013. (Table 4-1) Keystone submitted that this annual benefit should be sustained and grow with higher production for three to four years.

Table 4-1

PGI – Keystone XL Net Benefits to Canadian Crude Producers in 2013

Cost of Service Pipeline Tolls Increase	Total Costs Related to Increased Cost of Service Pipeline Tolls	Keystone XL Toll	Total Cost for XL Committed Volumes	Total Costs to Producers Related to Pipeline Tolls	Gross Benefit	Net Benefit
US\$0.65/bbl	US\$503 million	US\$6.25/bbl	US\$867 million	US\$1.37 billion	US\$1.8 to US\$3.4 billion	US\$0.4 billion to US\$2.0 billion

Views of the Intervenors

KSG

KSG submitted that new market access would alleviate the risks of saturation in traditional markets and improve netbacks for all western Canadian producers. The TSAs are the best evidence of the need for the applied-for facilities and that the benefits of USGC access outweigh the impact of increased tolls.

KSG stated that the Keystone XL pipeline would be opening a new market, thereby to maximizing crude oil netbacks and the revenues available to governments and industry to make social and economic investments. In its view, this outcome would be in the public interest.

Enbridge

Enbridge retained Muse, Stancil & Co. (Muse) to evaluate the implications of the Keystone XL Pipeline for Canadian crude oil producers. Enbridge asked Muse to evaluate the Western Canadian Crude Supply and Markets report provided by PGI on behalf of Keystone, and to conduct an independent assessment of the benefits of the Keystone XL Pipeline project to Canadian oil producers.

Muse concluded that the assessment provided by PGI significantly overstated the benefit of the Keystone XL Pipeline project to Canadian oil producers. Specifically, Muse found that:

- the ongoing expansion of the Enbridge system and the construction of the Base Keystone Pipeline would capture much of the benefit that PGI is attributing to the Keystone XL Pipeline project;
- the 2006-2008 time period selected by PGI as the basis for its benefit calculations had quite different market conditions than that expected in 2013;
- there are substantive errors in the calculation methodology employed by PGI to determine the Hardisty crude price using the U.S. Gulf Coast netback basis;
- the calculation methodology employed to determine the Hardisty crude price using a U.S. Midwest netback basis overstates the price impact; and
- PGI is using Canadian pricing theories that are incorrect.

Muse used its Crude Market Optimization Model to evaluate the expected pricing benefit of the Keystone XL Pipeline. Muse explained that it developed this model for use in a wide variety of commercial applications, including detailed forecasts of western Canadian crude prices, assessment of likely western Canadian crude consumers, and pipeline utilization studies. Using crude oil supply data from the Canadian Association of Petroleum Producers (CAPP) 2009 Growth forecast, the model predicted the flow of crude oil to particular markets and the Canadian crude prices that result from such flows.

Muse estimated that the aggregate net benefit to Canadian oil producers from the Keystone XL Pipeline would be US\$102 million in 2013, assuming that only the current committed volumes of 60 400 m³/d (380 Mb/d) were transported.

During the proceeding, Muse explained that the benefit of the Keystone XL Pipeline to Canadian oil producers of US\$102 million did not include the cost to producers of the Keystone XL Pipeline fixed toll, which amounted to about US\$562 million in 2013. Muse submitted that with this adjustment, the net benefits of the Keystone XL Pipeline in 2013 would have been about negative US\$500 million. Enbridge argued that the assessment of Muse was not challenged by Keystone.

Enbridge stated that the PGI assessment of the pricing benefit to Canadian oil producers was not credible and that the Keystone XL Application should be denied because it has not been demonstrated that its benefits would outweigh its burdens.

BP

BP stated that Keystone did not successfully establish that the Keystone XL Pipeline would deliver a net benefit to Canadian producers; or if it would, it was not as obvious or substantive as Keystone suggested.

Nexen

Nexen submitted that the pricing impacts put forth by PGI and Muse may or may not be realized. In its view, the size of that benefit and whether it would exceed the toll impact is open to question.

Imperial

Imperial stated that PGI's analysis did not permit the conclusion that the Keystone XL Project benefits outweighed its costs.

4.2 Potential Impacts on Existing Pipeline Infrastructure

Views of Enbridge and Supporting Intervenors

Enbridge stated that if the Keystone XL Pipeline were placed into service as proposed, crude oil volumes would be offloaded from its system and shipped on the Keystone XL Pipeline, resulting in increased tolls for Enbridge system shippers. Enbridge estimated that the volumetric offloading on its system would be 51 750 m³/d (326 Mb/d), based on the CAPP 2009 Growth Case supply forecast and assuming that Keystone XL transported volumes of 60 400 m³/d (380 Mb/d). Enbridge calculated that this would result in a toll increase to Enbridge system shippers in 2013 of CDN\$0.75 per barrel from Edmonton to Chicago, totaling CDN\$315 million.

Enbridge indicated that the impact would be greater if either the Base Keystone Pipeline or the Keystone XL Pipeline were to transport more than their contracted volumes. Enbridge completed a sensitivity analysis that assumed that Keystone XL was transporting its capacity of 111 100 m³/d (700 Mb/d) and determined that 96 200 m³/d (606 Mb/d) would be offloaded from the Enbridge system, resulting in a CDN\$1.60 per barrel increase in the toll from Edmonton to Chicago. The total impact to Enbridge shippers in this case would increase from CDN\$315 million to about CDN\$515 million.

In summary, Enbridge stated that the Keystone XL Pipeline would offload between 60 300 m³/d (380 Mb/d) and 111 100 m³/d (700 Mb/d) from all existing Canadian pipelines, and would offload between 51 750 m³/d (326 Mb/d) and 96 200 m³/d (606 Mb/d) from the Enbridge system.

Enbridge acknowledged that the WCSB is a growing producing region and that it is reasonable to expect that spare pipeline capacity would be reduced over time. Accordingly, Enbridge estimated that the toll impact on its system would likely decrease somewhat over subsequent years. It indicated that the CDN\$0.75 toll impact would decline potentially by 10 to 20 cents per barrel over five years.

The Gretna Option

Enbridge stated that in March 2009, CAPP expressed concern that previous western Canadian crude oil supply projections were no longer realistic and asked it to consider whether there were opportunities to utilize existing pipeline capacity as part of the Keystone XL Pipeline project, in order to achieve greater economic efficiency and improved benefits for all crude oil shippers. Enbridge stated that CAPP presented it with the Gretna Option, which would involve:

- use of the Enbridge pipeline system from Hardisty, AB, to Gretna, MB, to transport crude oil nominated to the Keystone XL Pipeline;
- construction of an interconnection between the Enbridge pipeline system and the Keystone XL Pipeline in the Gretna area; and
- construction by Keystone of the Keystone XL Pipeline south from the Gretna area to Cushing and the USGC.

Enbridge indicated that it was willing to address potential development options with CAPP. With regard to the Gretna Option, Enbridge advised CAPP that significant savings would be achievable in comparison to the proposed configuration of the Keystone XL Pipeline due to the lower capital costs for the Keystone XL Pipeline project and better utilization of the Enbridge system. Specifically, with the Gretna Option:

- there would be a capital cost saving of approximately US\$2 billion if the Keystone XL Pipeline were to be built from the Gretna area to the USGC rather than from Hardisty to the USGC;
- there would be about a CDN\$0.35 per barrel toll saving on the Enbridge system, which would benefit all Canadian oil producers due to the positive impact on netbacks;
- there would be a significant working capital saving for shippers, because the linefill requirement for the Keystone XL Pipeline in Canada would be lower by approximately 2 million barrels;
- new Canadian pipeline construction could be better timed to meet expected western Canadian supply growth; and
- construction, environmental and permitting challenges would be reduced by making use of existing pipeline facilities in Canada.

Enbridge stated that it was committed to making the Gretna Option work and was putting it forward because it believed that it would produce a better result for industry by achieving the benefits of USGC access, but with lower costs. In its view, the Gretna Option would produce a much better result from a Canadian public interest perspective.

Enbridge indicated that it was open to having discussions with Keystone about the Gretna Option; however, it was of the view that for the Gretna Option to proceed, the Board must deny the Keystone XL Application. Enbridge submitted that if the application were approved, Keystone would lack the necessary financial motivation.

The map illustrates the proposed Keystone XL pipeline route, starting from Edmonton, Alberta, and extending to the Gulf Coast. The route is divided into five planning areas (PADD I to PADD V), each with a distinct color: PADD I (blue), PADD II (orange), PADD III (yellow), PADD IV (brown), and PADD V (pink). Key cities and locations along the route include Montreal, Buffalo, Westover, Sarnia, Toledo, Chicago, Patoka, Wood River, Corsicana, Beaumont, Cushing, Steele City, Superior, Clearbrook, Gretna, Cromer, Regina, Hardisty, and Calgary. The map also shows the 'ENBRIDGE Regina' line and the 'PROPOSED XL' line. A dashed line labeled 'GRETTA OPTION' and a solid line labeled 'BASE KEYSTONE' are also indicated.

BP

BP indicated that it is a significant shipper on the Enbridge system.

BP was of the view that the Keystone XL proposal would exacerbate the negative effects of excess takeaway capacity from the WCSB and impose unreasonable costs on common carrier shippers. BP submitted that if no alternate approach could be established that would find a more efficient and effective way to serve the USGC, then the Board should deny the Keystone XL Application.

BP stated that it did not know if it supported the Gretna Option, but believed that the potential for achieving broader based benefits and minimizing the negative impacts was clearly worth exploring.

BP suggested that the NEB should take some positive steps to encourage discussions between Enbridge and Keystone to assess the viability of the Gretna Option; otherwise those discussions would not occur. It suggested that the Board withhold its decision until discussions have been held. BP submitted that this approach would facilitate the opportunity for parties to seek, and for the Board to ensure, that a more effective and efficient solution in the public interest is not ignored.

Imperial

Imperial argued that Keystone XL capacity would be used to offload from cost of service pipelines and would result in significantly increased tolls to their continuing shippers. As a major shipper on the Enbridge system, Imperial said it would be materially impacted if Keystone XL were approved.

Imperial argued that the Keystone XL Application should be denied because it ignores the impact on cost of service shippers and focuses solely on Keystone's own commercial interests.

Imperial stated that it supports new market access for Canadian crude oil, and believes that the Canadian public interest is best served in considering such market access by promoting cost-effective, efficient infrastructure prior to concluding that a new pipeline is required.

Imperial stated that Keystone did not undertake the necessary analysis of alternatives using existing Canadian infrastructure. Imperial's view was that in that absence of this analysis the Board would be unable to evaluate whether the Keystone XL Pipeline is in the Canadian public interest. Imperial submitted that the Keystone XL Pipeline will increase surplus capacity in Canada to the detriment of Canadian shippers and that until the Board is convinced that Keystone has looked at all possible alternatives to get WCSB product to the USGC and that the Canadian public interest is best served by proceeding with the Keystone XL Pipeline, the Board should not approve the Application.

Nexen

Nexen stated that it is opposed to excessive overbuilding of pipelines because of the toll consequences and concluded that it is not in the public interest to incur greater cost than necessary to access the USGC market.

Nexen submitted that the assessment of whether Keystone XL is in the interest of the producer community and the Canadian public must be based on whether it is better or worse than the Gretna Option. It argued that the Gretna Option achieves all of the stated benefits of the Keystone XL proposal, but without the associated costs.

Nexen asked that the NEB give both pipeline parties a clear signal and the proper encouragement to reach an agreement on the Gretna Option. In this regard, Nexen suggested that the Board delay the ruling on the Application until Keystone has demonstrated that it has made reasonable commercial efforts to reach an arrangement. It submitted that if a decision must be made to either approve or deny the Application, it reluctantly recommended a denial, in the expectation that all parties, in particular Keystone, would then have the best incentive to compromise with the Gretna Option.

Views of Keystone and Supporting Intervenors

Keystone stated that potential future underutilization of the Enbridge system should be managed directly by Enbridge and its stakeholders. Further, it stated that it would not be the cause of potential future underutilization on the Enbridge system. Keystone argued that Enbridge wishes to use the Keystone XL Project as a vehicle to manage the consequences of potential underutilization on its system. It stated that Enbridge should have known since 2008 that the supply associated with the long term contracts on Keystone XL would not be available to be transported on its system.

Keystone stated that the Keystone XL Pipeline is underpinned by long-term contracts and would for the first time connect supply directly with the USGC, a large, highly desirable, and virtually untapped market. Keystone submitted that this connection would provide pricing benefits to producers and other operational attributes that are attractive to the market and are not otherwise available via competing transportation systems.

Keystone submitted that it is not the applicant's responsibility to conduct a broad assessment of the potential effects of a specific project on a wide variety of potential interests. It argued that it does not know what potential volumetric impacts might be associated with the Keystone XL Pipeline in respect of the Enbridge system.

Keystone noted that neither CAPP nor any Enbridge shipper has filed evidence expressing concern that the approval of the Keystone XL Pipeline would have an adverse impact on the producing industry generally or individual shippers specifically.

The Gretna Option

Keystone submitted that it would be prepared to explore options for providing transportation service, including the use of existing capacity, where those options are raised as proposals in a timely and legitimate fashion, are viable and reasonable, and meet customer requirements and Keystone's commercial needs. It stated that in order to constitute a viable and reasonable alternative to the Keystone XL Project, any option would have to deliver the same benefits to Keystone and its shippers within the same timeframe and on the same terms and conditions as the existing contractual arrangement, without introducing additional risk.

Keystone submitted that it would be willing to consider formal proposals that deal with its key threshold issues, but it was not prepared to respond to concepts or otherwise develop or negotiate concepts in a regulatory proceeding.

Keystone's stated its key threshold issues were as follows:

- Delayed in-service timing;
- Negative impact on quality;
- Increased transit time;
- Capacity constraints;
- Economic benefit;
- Shipper choice;
- Growth opportunities;
- Higher ultimate capital cost; and
- Higher operating cost.

Keystone stated that Enbridge had never presented its concept to Keystone and in its view, it has received very little review or scrutiny from CAPP or industry. Keystone indicated that given the infancy of the concept, the numerous stakeholders involved, and the complexity of structuring multi-billion dollar deals, it believed that such discussions could be very lengthy and may well ultimately not reach a successful conclusion.

In Keystone's view, the Gretna Option is not developed and has serious issues associated with its viability. Keystone indicated that the temporary nature of the Gretna Option was a major concern, and could result in the U.S. portion of the Keystone XL Pipeline becoming a \$5 billion stranded asset, forcing Keystone to build again in Canada to effect deliveries to the U.S.

Keystone stated that any delay in a decision on the Application in order to provide time to consider the Gretna Option would have the same effect as a denial and the Keystone XL Project would not proceed.

In final argument, Keystone questioned why Enbridge would not offer to sell the assets to Keystone if it were truly concerned about mitigating the alleged negative impacts of Keystone XL on its shippers.

Valero

Valero acknowledged that with the Keystone XL Pipeline in service, there may be significant excess WCSB export pipeline capacity. From a long term strategic point of view, however, given the size of the WCSB resource base and the USGC market, this would not be inconsistent with the Board's goal of efficient infrastructure and markets.

Valero indicated that one possible outcome of the Keystone XL Pipeline could be an increase in the tolls on some pipeline systems. It indicated, however, that some pipeline systems seeking to increase throughput in an overcapacity situation would seek to lower tolls in order to attract more shippers and additional volumes.

Valero indicated that if the Board were to approve Keystone XL, it would not object to Keystone and Enbridge discussing the viability of the Gretna Option, provided that any potential commercial solution to incorporate the Gretna Option resulted in lower costs for Keystone XL shippers, included commercial terms at least as favourable as those set forth in the Keystone XL TSAs, did not degrade the level of transportation service or firm capacity that Keystone XL is prepared to offer its shippers, or delay the in-service date for the Keystone XL Project.

Valero stated that it is not a shipper on the Enbridge or Trans Mountain pipeline systems.

KSG

KSG was of the view that the Keystone XL Project will only result in increased tolls on the Enbridge system temporarily, as a result of the lumpy nature of new pipeline projects.

In KSG's view, the Gretna Option should not distract the Board from approving the Keystone XL Pipeline. KSG viewed the Gretna Option as a stalking horse for Enbridge's failed USGC projects and not a serious proposition. Even if it were a serious proposition, KSG argued that the risk of delayed access to the USGC and the associated risk of price discounting would make it non-viable.

4.3 Impacts on the Upgrading and Refining Industry in Canada

Views of the Intervenors

Alberta Federation of Labour

The Alberta Federation of Labour (AFL) expressed the view that shipping unprocessed bitumen to the U.S. is not in the public interest.

In support of its position, the AFL submitted its report entitled "*Lost Down a Pipeline*". It concluded that billions of dollars are being spent by major energy companies to build, retool, or expand at least 10 USGC refineries to upgrade and refine raw bitumen from the Alberta oil sands. The AFL characterized major export pipeline projects as bitumen super-highways that act as conduits for the export of Alberta's raw resources and thousands of high-paying jobs. In its view, these Canadian jobs would provide the opportunity for industry and workers to move up the value ladder, thereby promoting diversification of Alberta's economy.

The AFL also stated that approval of the Keystone XL Pipeline Application would increase the price of bitumen purchased by Alberta upgraders and refiners.

The Communications, Energy & Paperworkers Union of Canada (CEP)

The CEP raised concerns about the potential adverse impacts of recently NEB-approved pipeline projects on the economic development of the oil and gas industry, and on Canadian energy security. In its view, it is incumbent upon the Applicant to provide evidence that would allow the Board to make an informed judgment about the potential impact that the Keystone XL Pipeline project would have on present and future investments in the upgrading and refining of oil sands and other Canadian oil resources, and on the question of Canadian energy security. The CEP submitted that Keystone did neither.

In the CEP's view, export pipeline capacity has a strong influence on domestic investment in upgrader facilities. It argued that if new pipelines decrease the spread between synthetic crude oil and bitumen by providing ready access to U.S. upgraders, important incentives for value-added processing in Canada will be undermined. The CEP noted that absent credible and thorough analysis, there is no way to determine what influence approving new pipeline infrastructure would have on investment decisions concerning Canada value-added processing.

The CEP submitted that the wholesale export of raw materials and natural resources from Canada is not in the public interest. The CEP urged the Board to send the industry a clear message that it would not sanction large scale export pipeline projects unless it could be demonstrated that such projects would not threaten investments in value-added processing of Canadian resources.

Enbridge

In Enbridge's view, the potential impact of the Keystone XL Pipeline on domestic refiners of heavy oil should be taken into account when assessing the net benefits of the Project to the Canadian oil industry.

The Muse study prepared on behalf of Enbridge indicated that roughly 25 per cent of western Canadian crude oil production flows to a Canadian refiner. As a result, Muse advised that the impact to the Canadian refiners should be included as part of an assessment to determine net benefits to the Canadian crude oil industry overall. Muse calculated that the net benefit of Keystone XL drops by about 27 per cent, or by about US\$28 million per year, when costs to Canadian refiners are taken into account.

Based on the PGI analysis, Enbridge calculated that a price increase of US\$6.55 a barrel on 39 800 m³/d (251,000 b/d) of Canadian heavy oil refining capacity increase the supply cost to Ontario and western Canadian refineries by US\$600 million in 2013. In Enbridge's opinion, this cost must be reflected in the assessment of the benefits and burdens of Keystone XL to the overall Canadian industry.

Views of Keystone

In Keystone's view, the Keystone XL Pipeline would facilitate upgrading in Alberta by providing transportation to market for a wide variety of crude oils. Keystone explained that if shippers choose to upgrade in Alberta, they have the ability to ship upgraded crude oil on Keystone XL. Keystone also noted that, if required, the design could be modified to accommodate shipment of refined products. Keystone stated it was well established that the recent delays and cancellations of proposed upgrader projects were mainly due to high development costs in Alberta and the reduced pricing differential between heavy and light crude oil. Keystone submitted that there is no established connection between those delays and crude oil export capacity from Alberta.

Keystone noted that no refiner or upgrader took the position that the Keystone XL Pipeline should not be built because it would negatively affect either their ability to obtain supply, or the price that they would be required to pay for that supply.

Views of the Board

Competition and Netbacks

The Board notes that most of the parties including Keystone, Enbridge, BP, Imperial Oil, Nexen, Kinder Morgan, and the Keystone Shippers Group expressed views in support of competition and the importance of shipper choice. As expressed in previous Board decisions, in general, the public interest is served by allowing competitive forces to work, except where there are costs that outweigh the benefits.

The Board is of the view that the Keystone XL Pipeline would be an innovative complement to the existing transportation infrastructure and deliver economic benefits through enhanced competition and increased shipper choice. No party disputed that the USGC is a large, long term and strategic market for western Canadian crude oil. Keystone XL shippers have indicated that they are seeking competitive alternatives, and by providing access to a new market, Keystone XL would be expanding shipper choice. The Board places considerable weight on the fact that Keystone XL shippers have made a market decision to enter into long-term shipping arrangements negotiated through a transparent competitive process.

New pipelines connecting producing regions with consuming regions change market dynamics in ways that cannot easily be predicted. It is difficult to determine with certainty the impact that a major project such as the Keystone XL Pipeline may have on netback prices once it is placed into service. The Board is of the view that in the short term it is reasonable to expect a period of adjustment, which could potentially include a period of lower netbacks to producers. Over the longer term, however, the Board is satisfied that the Project will help ensure that

adequate capacity exists to connect growing WCSB supply to attractive markets, and in this way help ensure that all producers realize netbacks that reflect the full market value for their production. Canadian crude oil netbacks provide revenues to governments and to industry to make social and economic investments. In the Board's view, these investments benefit all Canadians.

Potential Impacts on Existing Pipeline Infrastructure

In this proceeding, the Board heard a great deal of evidence about the potential impacts Keystone XL could have on existing pipeline infrastructure and the Canadian oil industry. In particular, Enbridge and some of its shippers urged the Board to deny or delay the approval of Keystone XL because of the burden the Project would place on other pipelines and their shippers.

The Board recognizes that existing pipelines may experience some degree of offloading for a period of time, and shippers on these systems could potentially incur higher tolls as a result. The Board had no cogent evidence before it, however, demonstrating that these potential costs would be unmanageable by the sophisticated industry parties. Moreover, the Board is of the view that all western Canadian producers are likely to benefit from the Keystone XL Pipeline over the longer term, through broader market access, greater customer choice and efficiencies gained through competition among pipelines.

When evaluating the need for new infrastructure, the Board considers the capability of existing infrastructure to meet current and future market requirements. The evidence indicates that should the Keystone XL project proceed, there may for some time be physical excess pipeline capacity for western Canadian crude oil exports. There was, however, insufficient evidence before the Board to demonstrate that existing infrastructure could practically be incorporated into the Keystone XL Project to achieve timely USGC access. Moreover, no party disputed that the Alberta oil sands are a substantial resource base capable of delivering long term, significant supply growth. In this connection, the Board is of the view that western Canada pipeline utilization overall is likely to increase over time.

The Board has considered the evidence regarding the proposed Gretna Option, which was introduced by Enbridge. An arrangement such as the Gretna Option would be highly complex and would require extensive negotiations amongst numerous parties. It was clear from the evidence that the Gretna Option is not developed to the point where it could be considered as approaching commercial reality. The Board is not persuaded by the argument that it should find that Keystone XL is not in the public interest because there might possibly be other commercial arrangements that could meet the need identified by the Applicant. A

project that meets the test under section 52 of the NEB Act should not be denied on the basis that there might be other potential options that could be developed in the future.

The Board is of the view that had the parties been of a similar mind they would have made stronger efforts on their own to explore potential solutions to minimize the costs associated with accessing the USGC market. Opportunities for the parties in this regard may still exist. The Board however does not agree with those intervenors who submitted that it should delay its decision or deny the Keystone XL Application so as to encourage the parties to pursue such solutions. The Board is of the view that to do so would unnecessarily impede competition and the operation of the market and would not be in the public interest.

Impacts on the Refining and Upgrading Industry in Canada

The Board benefitted from the perspectives of the AFL expressed throughout the proceeding and the CEP as submitted through final argument. As expressed in the OH-1-2007 and OH-1-2008 Reasons for Decisions, the Board is informed by the positions of industry parties as well as government expressions of current economic and energy policy. The Board's public interest determination must balance of the many competing political, economic and social interests.

In final argument, the CEP and AFL expressed concern that shipping raw bitumen by pipeline to the U.S. has an impact on domestic investment in upgraders and refineries in Alberta and Canada. The Board accepts these perspectives as valid public interest considerations. Based on the evidence, however, the Board has not been convinced that development of pipeline infrastructure deters investment in upgraders and refineries in Canada. The Board also believes that given the fact the Keystone XL would have the ability to transport both heavy and light crude oil and potentially with modifications, refined petroleum products that the market would properly decide what type of commodity is transported on the pipeline. In this regard, the Board concludes that it is in the public interest to allow Alberta oil exports to link directly with the USGC.

The Board notes that no refiners or upgraders expressed opposition to the Application on the basis that it would undermine their business in Canada. The Board notes that the Alberta Department of Energy was active in the hearing, but did not present final argument.

Commercial Impacts and the Public Interest

The economic benefits of the Keystone XL Pipeline Project are derived mainly from increased competition and additional transportation options for shippers. The economic burdens of the Project concern mainly the

costs to commercial third parties. In balancing these competing considerations, the Board finds that the economic benefits of the Keystone Pipeline Project will likely outweigh the costs and therefore, by this measure, the Project is in the public interest.

Chapter 5

Tolls and Tariffs

Keystone applied for approval of the proposed toll methodology pursuant to Part IV of the NEB Act. In assessing a proposed methodology, the Board considers whether the resulting tolls would be just and reasonable, and whether under substantially similar circumstances and conditions with respect to all traffic of the same description carried over the same route, the tolls would be charged equally to all persons at the same rate. The Board also must be satisfied that the toll methodology would not result in any unjust discrimination in tolls, service or facilities. In order to make these determinations, the Board considers all relevant factors specific to each application.

Furthermore, and specifically for an oil pipeline, the Board must be satisfied that the pipeline would receive, transport and deliver all oil offered to it for transmission. This requirement is usually referred to as the common carrier obligation where an oil pipeline is required to offer service to any party wishing to ship oil on its pipeline.

5.1 Open Season

Keystone indicated that following the initial development of Base Keystone, prospective shippers, including producers, marketers and refiners, expressed interest in expanding pipeline transportation services beyond the U.S. Petroleum Administration for Defense District (PADD) II markets into PADD III. On 16 July, 2008, TransCanada Corporation announced Keystone's plans to expand the Base Keystone system to provide additional capacity to the USGC by 2012. An open season for transportation service to the USGC took place between 16 July and 4 September, 2008.

As a result of the open season, Keystone received shipping commitments on the Keystone XL Pipeline by way of executed TSAs totaling 60 400 m³/d (380,000 b/d) which have an average term of 17 years. Seven TSAs were executed to support the Canadian portion of the Keystone XL Pipeline which would have a capacity of 111 300 m³/d (700,000 b/d).

Keystone submitted that the TSAs would provide committed shippers with unapportioned access on the Keystone XL Pipeline for capacity up to their contract volumes, in recognition of the significant financial support those TSAs provide to the Keystone XL Pipeline. Other key elements of the TSAs, according to Keystone, include a negotiated toll that would be fixed for the term of the contract, a variable toll that would recover operating costs in Canada and a level of capital cost risk sharing.

As part of its application, Keystone filed the pro forma TSA and Tariff for Keystone XL in Canada. Following an information request by the Board and in accordance with confidentiality order MO-13-2009, Keystone also filed the following documents:

- Executed TSAs for Keystone XL in Canada and the U.S. and pro forma TSA for Keystone XL in the U.S.

- Executed TSAs for the Cushing expansion in Canada and the Cushing extension in the U.S. and pro forma TSA for the Cushing extension
- Executed TSAs for Base Keystone in Canada and the U.S. and pro forma TSA for Base Keystone in the U.S.
- Pro forma Tariffs for Keystone XL in the U.S., the Cushing extension and Base Keystone in the U.S.

Keystone included in the OH-1-2009 record the Canadian Base Keystone and Cushing expansion pro forma TSAs and Tariffs. These two documents were not subject to the confidentiality order since they were already available in the public domain.

Views of the Parties

Valero Marketing and Supply Company (VMSC)

VMSC submitted that during 2007 and 2008, it had spent approximately 18 months considering various proposals to transport crude oil from the WCSB to the USGC via pipeline. In doing so, VMSC considered the potential tolls to be paid, the terms of the proposed TSAs, linefill requirements, transit time, product quality, access to capacity and the proposed in-service date for the pipeline. Given all of these considerations, VMSC believed that the Keystone XL Pipeline offered the most reasonable TSA terms, which made the Keystone XL Pipeline the best option for VMSC to transport crude oil from the WCSB to the USGC. Accordingly, VMSC submitted that it executed a TSA with Keystone and committed to ship a meaningful volume of WCSB heavy crude oil on Keystone XL over multiple years.

Enbridge

Enbridge was of the view that the open season process carried out by Keystone XL was not flawed.

5.2 Uncommitted Capacity and Common Carrier Status

Keystone submitted that a portion of the Keystone XL Pipeline capacity would be reserved for uncommitted volumes to accommodate shippers that did not sign TSAs. Keystone set aside 7 200 m³/d (45,000 b/d), approximately 6 percent of the Keystone XL Pipeline capacity in Canada, by not contracting this capacity on a long-term basis. Keystone noted that this volume would represent the same share of total capacity as was approved by the NEB for the Keystone Pipeline and the Cushing Expansion projects. Keystone indicated that taken together with the minimum uncommitted reservation on Base Keystone of 5 600 m³/d (35,000 b/d), the total minimum uncommitted reservation on the Keystone system would be 12 800 m³/d (80,000 b/d), approximately 6 percent of the capacity of the Keystone system. Keystone was of the view that this level of reservation was appropriate.

Keystone indicated that the reservation for uncommitted shipments on the Keystone system was in recognition of Keystone's status as a common carrier. Keystone offered the view that the ability to ship on an uncommitted basis on the Keystone system would provide Canadian producers with flexibility to respond to market conditions in either PADD II or PADD III and

create opportunities for Canadian producers to develop a broader range of U.S. customers and market opportunities.

During the course of the oral portion of the hearing, the Board sought comments from the parties on a proposed requirement pursuant to Part IV of the NEB Act which would require Keystone to reserve 20 percent of the total capacity of the combined Base Keystone and Keystone XL pipelines for uncommitted volumes. Given that Keystone's view was that its open season was appropriate and that, according to Keystone, no party to the proceeding had indicated an intention to ship uncommitted volumes, Keystone indicated that the proposed 6 percent was reasonable and sufficient to provide benefits to producers. Keystone also stated that a 20 percent reservation would appear to be unprecedented. Keystone contended that a 20 percent reservation was required by the Board only in the case of Line 9¹ where the full capacity of the pipeline was contracted, where deficiencies were found with the open season and where an intervenor specifically requested the Board to direct that uncommitted capacity be made available.

Keystone stated that a 20 percent reserve on the Base Keystone system could be achieved operationally but would be unnecessary since there would be sufficient pipeline infrastructure into PADD II from the WCSB. Keystone also indicated that a 20 percent reservation could not be accommodated in all circumstances while meeting contractual obligations on the Keystone XL Pipeline. This could also lead to disproportionately apportioned nominations creating, in Keystone's view, concerns about equitable treatment for all uncommitted shippers.

Finally, Keystone submitted that it was at risk for throughput which means that the greater the reservation of uncommitted capacity, the less flexibility Keystone would have to manage the underutilization risk. In the end, Keystone's position was that a 10 per cent reservation could be accommodated.

Keystone was of the view that it had provided all the requisite evidence related to its common carrier requirement and that the Board had all it required to issue a determination pursuant to Part III of the NEB Act.

Views of the Parties

VMSC

Based on the NEB's OH-1-2007 and OH-1-2008 Decisions where approximately 6 percent of total capacity was reserved for uncommitted shippers, VMSC believed that its committed volumes on Keystone XL would not be apportioned out of the Canadian segment of Keystone XL in order to accommodate uncommitted shippers who had decided not to make financial commitments during the open season. Given that financial commitments by shippers like VMSC were necessary to ensure that Keystone XL would be built, VMSC believed that reserving capacity for committed shippers on the Canadian portion of Keystone XL would be reasonable. VMSC argued that this would be fully consistent with the Board's prior findings in OH-1-2007 where it noted that unapportioned access accorded to committed shippers would not result in unjust discrimination.

¹ OH-2-97 Reasons for Decision dated December 1997, Chapter 7, page 53

According to VMSC, the risk of apportionment would go up in the U.S. if the Board were to require Keystone to reserve more than 6 percent for uncommitted capacity. In VMSC's view, unapportioned access on the Canadian portion would give shippers some assurance that as long as there were no receipt points in the U.S., Canadian apportionment rules would continue to protect committed shippers. VMSC concluded that if it would not be problematic from Keystone's perspective to reserve 10 percent of its capacity for spot shipments while still being able to honour its contractual obligations with committed shippers, then such a level of reserved capacity would not be problematic for VMSC.

Enbridge

Enbridge indicated that Keystone should be required to have reasonable regard for the capacity requirements of uncommitted shippers.

According to Enbridge, it would be physically possible for Keystone XL to reserve 20 percent of its capacity for uncommitted volumes and still be able to meet its contractual obligations to Cushing and the USGC. In Enbridge's view, even if more volumes were nominated to Cushing and the USGC than could physically be transported on the Keystone XL Pipeline, apportionment could be possible and this would be entirely consistent with the U.S. TSAs since Keystone would not have an obligation under these TSAs to provide unapportioned access to the USGC or any other destination.

5.3 Tolls

Keystone sought approval for a tolling methodology that differed from the traditional cost-of-service model indicating that the toll design was market-based and had been negotiated by sophisticated parties. Keystone proposed to charge tolls for two types of service: 1) committed service which would be supported by long term TSAs and for which committed tolls would be charged, and 2) uncommitted service which would not be supported by TSAs and for which uncommitted tolls would be charged.

5.3.1 Committed Tolls

Keystone submitted that its committed tolls would have a fixed and a variable component. The fixed component, which was designed to recover invested capital, was negotiated and had been levelized and fixed for the term of the TSA. Levelizing the toll was intended to provide committed shippers with toll predictability and stability over the term of their contract. Keystone offered contracts for 10, 15 and 20 year terms and the fixed component of the toll decreased as the length of term increased. The toll differentiation between terms was structured to recognize the additional financial commitment provided by longer term TSAs.

According to Keystone, Base Keystone committed shippers would face no change in the fixed component of their toll since the capital costs of the Keystone XL Pipeline would be borne by Keystone XL shippers alone.

The variable component of the tolls would be treated the same for Keystone XL shippers and Base Keystone shippers and would recover the operations, maintenance and administrative

expenses of the integrated Keystone system. These costs would be allocated to shippers each month on a barrel mile basis to volumes shipped.

Keystone notified the Base Keystone shippers that the Keystone system would continue to operate on an integrated basis once Keystone XL was in service. Those shippers requested clarification on the anticipated impact to the variable toll before and after the Keystone XL Pipeline would be in operation. In May 2008, Keystone provided Base Keystone shippers with customer-confidential information in response to that request. No shipper requested further information or follow-up on the issue.

Keystone submitted that the variable toll for transporting light crude would be 70 percent of that for heavy crude oil. There had been discussion during the proceeding regarding this proposed toll differential between heavy oil volumes and light oil volumes and the extent to which this differential was appropriately reflected in the proposed fixed and variable toll components.

In that regard, Keystone indicated that capital costs were a reflection of the design of the pipeline which would benefit both light and heavy oil shippers. The Keystone XL Pipeline would get products to market faster and create economies of scale by being capable of shipping a wide range of products (light and heavy oil) while providing minimum quality degradation. Although Keystone indicated that the flow rate could be 20 – 25 per cent higher if only light crude oil moved on the Keystone XL Pipeline, it did not follow that the associated capital costs would be 20 to 25 per cent lower. In fact, Keystone contended that there would be very little capital cost difference between a heavy and light-only design. As a result, Keystone submitted that the capital costs of the Project were appropriately reflected in the fixed component of the toll which would be the same for both light and heavy shippers.

Keystone was of the view that the proposed light-heavy variable toll differentiation appropriately reflected the cost difference between transporting heavy and light crude oil resulting from the lower power requirements for shipping light oil.

According to Keystone, since the toll design was market-based and negotiated with sophisticated parties who were likely to transport both heavy and light crudes over the term of their contracts, the applied-for toll design was reasonable. This would also be, in Keystone's view, good evidence that there would be no cross-subsidy between light and heavy oil shippers built into the toll design.

Keystone was of the view that the differential between light and heavy pipeline tolls would be unlikely to affect market decisions on development decisions for upgraders. The main drivers of those types of investment decisions would be the heavy-light differential² and capital costs environment. Keystone stated that its position was supported by the fact that recent cancellations and delays of upgraders had taken place in the context of existing crude oil export pipeline toll structures which reflected a greater heavy/light toll differential than that proposed by Keystone.

Keystone submitted that undertaking a study with a view to potentially making changes to the toll design would interfere with a negotiated, market-based commercial arrangement and a toll

2 The "heavy-light differential" is the price difference between light and heavy oil (or the price difference between synthetic crude oil and bitumen).

structure that had been consistently and successfully negotiated through the various Keystone project phases. Keystone was of the view that a toll design study would be unnecessary and not useful as it could compromise the existing contracts Keystone has with its shippers for the Keystone XL Pipeline.

5.3.2 Uncommitted Tolls

Keystone submitted that uncommitted capacity would be available to provide transportation service on a monthly basis for both committed and uncommitted shippers. The maximum uncommitted toll would be the combined fixed and variable ten-year committed toll plus a premium of 20 per cent. Keystone contended that the uncommitted toll methodology reflected the substantially different circumstances of the shippers who made long term financial commitments while keeping the toll at a competitive level in order to encourage shipments and manage underutilization risk.

Keystone indicated that, in order to remain competitive, it may at times be required to offer uncommitted capacity at a toll less than the maximum uncommitted toll. In the event market conditions were such that the uncommitted toll appeared to be uncompetitive, Keystone stated that it would make the appropriate toll filing with the Board at that time to reduce the toll or to seek approval for a mechanism which would allow discounting from the maximum toll.

Views of the Parties

Keystone XL Shippers Group (KSG)

KSG submitted that it believed the applied-for facilities should be approved and were supportive of Keystone's application.

VMSC

VMSC indicated that Keystone's proposed committed rate structure for Keystone XL was reasonable for a newly constructed pipeline system of this magnitude.

Alberta Federation of Labour

AFL stated that the toll structure understates the true cost difference between transporting heavy and light crude. It argued that Keystone's proposed toll reflects power use (via variable toll component), but not differences in power capacity or actual pipeline capacity (which would result in a different fixed toll component). Consequently, AFL was of the view that this could result in a cross-subsidy from light oil shippers to heavy oil shippers.

As submitted by AFL, failing to properly reflect the actual and complete costs to transport different types of crudes diluted the relative heavy-light differential in Alberta compared to the USGC. AFL argued that this differential is an important price signal in terms of the desirability and feasibility of upgrading investments in Alberta. According to AFL, the higher the Alberta differential compared to the USGC differential, the greater incentive there would be to upgrade and/or refine in Alberta as upgraders and refiners would have access to more affordable

feedstock. AFL argued that moving these processes outside the country would result in the loss of thousands of high-paying jobs, technical innovations and economic diversification.

AFL indicated that in a competitive market, prices should be based on costs, and the role of the regulator in setting tolls is to emulate market prices. Therefore, AFL contended that the NEB should ensure that tolls are based on the long-run average cost of providing service, thereby preventing the pipeline from exercising the market power it may otherwise have.

AFL asked the NEB to require Keystone to undertake a detailed study that would determine the actual cost differences for transporting different qualities of crudes. AFL stated that such a study would not result in any change if costs were found to be adequately reflected through the proposed negotiated tolls. Conversely, should the study reveal that costs were not adequately reflected in the proposed toll, this would be a sign of market distortion which would need to be corrected.

AFL was of the view that it would not be in the public interest for a distorted toll to be approved and that the Keystone application should be denied.

5.4 Transportation Tariff

Keystone asked for approval of the pro forma transportation tariff (Tariff) pursuant to Part IV of the NEB Act. Keystone acknowledged that there was some lack of clarity in regard to the allocation policy of unapportioned capacity resulting in the business intent not being fully reflected in the Tariff. Keystone submitted that the business intent of the Keystone system was that once Keystone XL was in service, shippers with a Cushing, Oklahoma or a USGC contract delivery point would receive unapportioned access in Canada only to Monchy, Saskatchewan (via the Keystone XL Pipeline). Furthermore, shippers with a Wood River or Patoka contract delivery point would receive unapportioned access to Haskett, MB (via the Base Keystone pipeline), irrespective of whether or not Keystone XL is in service. This business intent is in contrast to the applied-for Tariff, whereby unapportioned access could be offered to shippers with a Cushing or a Gulf Coast contract delivery point on Base Keystone and to shippers with a Wood River or Patoka contract delivery point on the Keystone XL Pipeline.

Keystone submitted that one way to reflect the business intent would be to make changes to the definitions in the Tariff that distinguished between Haskett (Base Keystone) and Monchy (Keystone XL) shippers based on their contract delivery points in the U.S. Further clarification would result if those definitions were coupled with a proviso in the “delivery point” definition such that, for the purposes of capacity allocation, unapportioned access to Monchy or Haskett would depend on whether one is a Haskett or Monchy shipper.

Another aspect of the Tariff that was discussed was the allocation of capacity between committed and uncommitted shippers. Keystone indicated that a specific reservation of capacity for uncommitted volumes is not included in the Tariff and that such an explicit recognition in the Tariff is not legally required. In support of this assertion, Keystone submitted that Article 19 of the Tariff stated that the Tariff was explicitly subject to all decisions and orders of any regulatory authority having jurisdiction, including the NEB. Keystone indicated that it would have no objection to making an addition to the Tariff if directed to do so by the Board.

In Keystone's view, the Board's determination of whether or not to recommend the issuance of a CPCN could be made without Keystone first filing a revised Tariff. According to Keystone, the Board also has the power to issue an approval pursuant to Part IV of the NEB Act for the Tariff along with a direction that Keystone file changes to the Tariff to the Board's satisfaction. This revised Tariff would reflect the business intent of the parties and could make an explicit reference to the reservation of spot capacity. Keystone submitted that if Keystone XL were to be approved, Keystone could make the requisite changes based on the Board's direction and refile the Tariff for the Board's approval since the applied-for pipeline would not come into service until late 2012.

VMSC

VMSC submitted that the applied-for Tariff would create a very reasonable and economically viable project.

Enbridge

Enbridge was of the view that Keystone's request for approval of the Tariff must be denied since it was clear from the evidence that the Tariff did not reflect Keystone's business intent. Enbridge argued the Board could not approve a tariff that it knows is wrong.

In the absence of an approved tariff that specifies Monchy as a delivery point, Enbridge submitted that there would be no way for the Board to conclude that Keystone XL shippers had a right or that Keystone had an obligation to make deliveries to Monchy. Enbridge expressed the view that this would be fatal to the Keystone application since the Board could not approve the construction of new facilities to Monchy when there is no evidence of right or obligation to ship to Monchy.

5.5 Keystone's Designation for Financial Regulation

Views of the Parties

Enbridge

In its final argument Enbridge submitted that Keystone would be more properly regulated as a Group 1 company if Keystone XL were to be approved. In support of this position, Enbridge indicated that the Keystone system would have a capacity of almost 1.3 million barrels a day, would have 13 different contracted shippers and would have more than 400,000 barrels a day of uncontracted capacity available for other shippers and for which tolls would need to be set and approved by the Board.

Views of Keystone

In its reply argument Keystone objected to the manner in which Enbridge presented the issue of Keystone's designation for financial regulation. Keystone argued that it would have been more appropriate to introduce this new issue in a manner that provided Keystone and other parties an opportunity to respond.

Views of the Board

Open Season, Uncommitted Capacity and Common Carrier Status

Subsection 71(1) of the NEB Act requires that an oil pipeline company offer service to any party wishing to ship oil on its pipeline. This provision is the foundation of the “common carrier” obligation for NEB-regulated oil pipelines. The Board has indicated in previous decisions that an oil pipeline meets its common carrier obligations when an appropriate open season is conducted for new facilities or services, and sufficient capacity is made available for uncommitted volumes. In addition, the Board has sometimes considered the ability of the pipeline to readily expand its facilities.

In this case, the Board is satisfied that the open season conducted for the Keystone XL Pipeline was adequate since interested parties had a fair and equal opportunity to participate and contract for capacity on the Pipeline. Furthermore, the Board notes that no parties to the proceeding disputed the validity of the open season conducted by Keystone.

Regarding the amount of capacity to be set aside for uncommitted volumes, the NEB Act does not prescribe a specific level of capacity that should be reserved to maintain common carrier status. In the Board’s view, the determination of an appropriate level of capacity to be set aside for uncommitted volumes is a matter of judgment and based on the circumstances of any specific case.

The Board notes that it is Keystone’s intention to use the Keystone XL Pipeline to transport the 24 600 m³/d (155,000 b/d) of committed Cushing volumes despite the fact that those volumes were originally used to justify the Cushing expansion. Also, both Base Keystone and Keystone XL committed shippers would benefit from certain diversion rights enabling volumes to be diverted from one pipeline segment to another. Furthermore, Keystone acknowledged that the Keystone system would be operated on an integrated basis, as demonstrated by the proposed variable toll methodology. Based on these factors, the Board is of the view that its determination of the appropriate level of reserved capacity for spot shipments should be based on the entire Keystone system and not the Keystone XL Pipeline on a stand-alone basis.

With the approval of Keystone XL, the Keystone system would have a total capacity of 205 300 m³/d (1,291,000 b/d), thereby significantly increasing its importance as a major oil export pipeline. The Board agrees with Keystone’s evidence to the effect that the ability to ship on an uncommitted basis on the Keystone system would provide Canadian producers with added flexibility to respond to market conditions and create opportunities to develop a broader range of U.S. customers and

market opportunities. From a Canadian public interest perspective, these are factors that would, in the Board's view, suggest in this case that the level of reserved uncommitted capacity should be set at the higher end of the range.

The Board also acknowledges that this view must be balanced by the fact that Keystone is a commercially at-risk pipeline that needs to manage throughput and underutilization risks. The Board accepts that Keystone also needs to maintain the operational flexibility of its system. The Board is of the view that the level of capacity to be reserved for uncommitted volumes must not compromise the viability of commercially at-risk infrastructure. The Board is also cognizant that unapportioned access has value for certain shippers and this value needs to be maintained whenever possible. After weighing the above-mentioned considerations, the Board has determined that Keystone should reserve 12% of the total capacity of the Keystone system for uncommitted volumes once the Keystone XL Pipeline comes into service.

The Board is satisfied that this level of uncommitted capacity, in combination with the open season process, will enable Keystone to maintain its common carrier status, subject to other Board directions to be provided in the Tariff section below.

Tolls

The Board has considered AFL's assertion that the applied-for toll methodology and resultant toll differential could give rise to cross-subsidization from light oil to heavy oil shippers which would create distortions in the incentives to invest in upgrading facilities in Alberta and impact the creation of value-added jobs in Canada.

The Board is of the view that having an appropriate economic environment which fosters job creation and technological innovation is an important aspect to consider in its decision. However, the toll differential, even if a degree of cross-subsidization were found to exist between light oil and heavy oil shippers, has not been demonstrated to be an important factor in investment decisions to build upgrading facilities in Alberta. Based on the evidence filed in this proceeding, the heavy/light differential and the capital cost environment are the main factors that affect such decisions. Furthermore, the Board is of the view that the Keystone XL Pipeline could actually contribute to a business environment where upgrading raw bitumen in Canada is made possible because of the existence of pipeline infrastructure capable of transporting a wide variety of crude oil.

In assessing the toll methodology and the evidence filed by AFL, the Board considered whether the alleged cross-subsidization from light to

heavy oil shippers could reach an extent where the resulting tolls would be unjustly discriminatory, contrary to section 67 of the NEB Act. The Board notes that Keystone's evidence indicates that there would be very little difference in capital costs to construct a light instead of a heavy oil pipeline. Though disputed, AFL provided no evidence that contradicted Keystone's evidence in this regard. As a result, the Board finds that capital cost differences would not support a significant differentiation in the fixed component of the tolls and any concern related to cross-subsidization would not result in unjust discrimination. In the Board's view, the difference in cost of shipping heavy versus light oil is reflected in the variable component of the toll. The Board also notes that tolls for Keystone XL are market-based rather than cost-based and are the result of negotiations between sophisticated parties who will likely ship both heavy and light crude oil. The Board is of the view that the pipeline design, which drives capital costs, will benefit both light and heavy oil shippers thereby significantly reducing the concerns of cross-subsidization between these two groups of shippers. The Board further notes that no prospective shippers raised any concerns regarding the tolling methodology. Based on these considerations, the Board finds that charging the same fixed toll for light and heavy crudes would not result in unjust discrimination.

The evidence in this proceeding did not convince the Board that the potential cost difference of building a pipeline capable of shipping only light oil instead of a pipeline capable of shipping a wide range of crude would significantly impact the fixed component of the committed tolls. Consequently, the Board will not require Keystone to undertake a detailed study to determine the actual cost differences for transporting different qualities of crude.

The Board finds that the proposed committed toll methodology will produce tolls that are just and reasonable, given that the methodology resulted from negotiations between sophisticated parties, and the Board's views above with regards to the proposed toll differential. The Board has considered the proposed toll structure whereby committed tolls would decrease with the length of contract term and uncommitted tolls would be set at a premium of 20 per cent over the 10-year committed toll. The Board accepts that this is a reflection of shippers having provided differing levels of financial support to the Keystone XL Project and accepting differing levels of risk. Therefore the Board finds that no unjust discrimination would result from this proposed toll structure and that the 20 percent premium for uncommitted tolls is just and reasonable.

In the event Keystone determines the uncommitted toll to be uncompetitive, Keystone will be required to file with the Board the revised toll with supporting documentation including an explanation of the discounting mechanism.

Tariff

Since the commercial intent of the Project was clarified before the end of the OH-1-2009 proceeding, the Board does not require a revised Tariff for making a determination with respect to Part III of the NEB Act. However, the Board is not prepared to approve the Tariff as applied for because, in the Board's view, it needs to be amended in at least two aspects.

The first aspect is the extent to which the Tariff adequately reflects the business intent of the parties as it related to the allocation of unapportioned capacity between Keystone XL shippers and Base Keystone shippers. In the Board's view, this is an important aspect of the Project as it would govern Keystone's ability to use the Keystone XL Pipeline to transport Cushing volumes. The Board is satisfied with Keystone's proposed approach to address the issue by making changes to the relevant definitions in the Tariff.

The second aspect relates to a specific recognition in the Tariff of the capacity to be reserved for uncommitted volumes. In the Board's view, despite the presence of Article 19 of the Tariff, Keystone's commitment not to contract the capacity set-aside for spot volumes for long-term service is insufficient to ensure that this capacity will be available to spot shippers on a monthly basis. As a result, the Board is of the view that to enable the equitable treatment of these shippers, the Tariff should explicitly reserve a portion of capacity for uncommitted volumes. Consequently, the Board directs Keystone to make an explicit reservation of spot capacity in the Tariff in such a way that would avoid situations where committed shippers could make nominations that would occupy some of the pipeline's capacity reserved for spot shipments on a priority basis over uncommitted shippers.

The Board recognizes that tariffs are living documents that need to evolve through time in order to adapt to new business needs and market circumstances. However, before approving such a document, the Board needs to ensure that it is up-to-date to the extent that can be reasonably expected. As a result, Keystone is required to file with the Board for approval a revised Tariff before Keystone XL goes into service. The revised Tariff will need to address the two aspects described above. This does not preclude Keystone from making other changes to the Tariff, with appropriate justification, if those changes are deemed necessary.

The Board notes that the documents filed confidentially pursuant to order MO-13-2009 were not relied upon in assessing the applied-for toll methodology or the Tariff.

Keystone's Designation for Financial Regulation

With the addition of Keystone XL, the importance of the Keystone system as a major oil export pipeline system in Canada would increase significantly. Even if tolls on the Keystone system continue to be determined through negotiated agreements rather than on a traditional cost of service basis, the Board is of the view that Keystone's designation as a Group 2 company for the purpose of financial regulation would need to be re-examined in a meaningful manner. Accordingly, should Governor-in-Council (GIC) approve the issuance of a CPCN, within 60 days of the receipt of the certificate Keystone is directed to file with the Board any comments it may have with regard to the issue of whether it should be regulated as a Group 1 or Group 2 company. As appropriate, the Board will then provide further direction, such as a timeline for comments from other interested parties.

Chapter 6

Engineering

In its examination of pipeline and facility applications, the Board considers relevant engineering issues to ensure that the applicant will design, construct and operate its proposed facilities in a safe and secure manner. The Board examines issues such as the suitability of the proposed design, facilities operation, integrity management, security, emergency management and preparedness, and health and safety of employees.

When a company designs, constructs, operates or abandons a pipeline, it must do so in accordance with the Board's *Onshore Pipeline Regulations*, 1999 (OPR-99), the commitments made during the Board's hearing process and the conditions attached to any approval. OPR-99 references various engineering codes and standards including the Canadian Standards Association (CSA) Z662 Oil and Gas Pipeline Systems (CSA Z662). The Applicant is responsible for ensuring that it follows the design, specifications, programs, manuals, procedures, measures and plans developed and implemented by the company in accordance these requirements.

6.1 Description of Facilities

The Keystone XL Pipeline Project consists of the construction of approximately 529 km of new 914 millimetre outside diameter nominal pipe size 36 inch pipeline from Hardisty, AB to Monchy, Saskatchewan (SK) (Figure 2-1). The Project will have an initial capacity of approximately 111 300 m³/d (700, 000 b/d) of commodity and is designed to be expandable to 143 100 m³/d (900,000 b/d). The Project will also include related physical works including: eight pump stations, storage tanks and other related works and activities including 32 mainline valves, cathodic protection for the pipeline, and pig launcher and receiver facilities.

Description of the Project within the Keystone System

The Project would be part of the larger, Canada-U.S. Keystone pipeline system. The Keystone system consists of the Keystone pipeline from Hardisty, AB to Haskett, MB, the Cushing Expansion of the Keystone pipeline (Base Keystone) and, once it is constructed, Keystone XL. All of the components of the Keystone system would be operated on an integrated basis. However, Keystone submitted that Keystone XL is not an expansion project in the traditional sense but a bullet-line to provide supply to the USGC. There would be a bullet-line pipeline segment extending from Hardisty to Steele City, referred to as the Steele City Segment, and a pipeline segment running from Cushing to the USGC, referred to as the Gulf Coast segment. The bullet-line approach is intended to minimize and reduce the impact of the co-mingling of dissimilar products that occur with the batch transport of oil.

In order to achieve the total weekly volumes each receipt point on the Keystone system requires, the Cushing Extension will run at full capacity, 7 days a week. This will enable the appropriate volumes from Hardisty to be received at both Cushing and the USGC.

In the overall Keystone system (including Keystone XL) the Cushing Extension, from Steele City to Cushing, is considered to be a bottleneck because it would be moving volumes from both Base Keystone and Keystone XL. According to Keystone, the 200,000 barrels a day of extra capacity from Hardisty to Steele City would overcome the constraints imposed by the bottleneck. If the flow was constant for the week, the flow rate would be 500,000 b/d but the bottleneck at the Cushing Extension would mean that the flow would only be running for five days out of seven. This type of flow is referred to as start/stop operation. The sizing of Keystone XL addresses the intermittent start/stop sequence of Steele City to Cushing and Cushing to USGC and the timing of the volumes down the system. The KXL pipeline's flow rate of 700,000 b/d would enable it to run for five days out of seven. For two days full flow would go to Cushing resulting in a weekly average delivery rate of 200,000 b/d, and for 5 days full flow would go to USGC resulting in a weekly average delivery rate of 500,000 b/d.

6.2 Design, Construction and Operation

The Keystone XL project is designed to batch transport products ranging from heavy blend crude oil to synthetic crude oil. The bullet-line methodology is intended to reduce product degradation that results from co-mingling dissimilar products during pipeline operation.

Keystone submits that this design has minimal interconnections within the mainline and avoids the co-mingling of products that would reduce the product integrity its shippers desire. In addition to reducing interconnections, breakout tanks will not be required at mainline pump stations because pipeline is sized such that the delivery rates required by the delivery points are matched by the maximum capacity of the pipeline. The system supports direct pipeline injection from shippers, and large batch sizes can be transported, which reduces the co-mingling of products that occurs in the boundary between different batches.

Keystone submitted that it had determined the size and location of the pump station locations based on the environmental footprint, the cost, and optimizing hydraulic efficiencies.

A construction safety program has been established and implemented for the Base Keystone system. Keystone has advised the Board that it will implement the same safety program for the Keystone XL project as has been used on the Base Keystone system. Keystone proposed utilizing their existing Pipeline Integrity Management Process to maintain, reduce and mitigate risks to safety and the environment during the operation of the pipeline. It indicated that the proposed facilities would be designed, constructed and operated in accordance with the Board's OPR-99, CSA Z662-07, and all other applicable standards, specifications and codes referenced in its application.

Keystone XL has committed to having an emergency response plan for its Project that will meet regulatory requirements. This plan would be completed in advance of the Project's in-service date to provide time to train emergency response personnel.

Views of the Parties

Enbridge

Enbridge submitted that Keystone XL has been designed with too much capacity. Keystone's argument is that the need for 700,000 b/d capacity is being driven by a bottleneck in facilities on the Steele City to Cushing Expansion pipeline. However, if the Project were designed with lower capacity out of Hardisty, Keystone could build a new line from Cushing to the USGC or, alternatively, install breakout facilities in Steele City. This would also allow pump facilities to be removed from the current 36- inch pipe design.

BP

BP questioned whether designing the Hardisty to Steele City portion of the pipeline with 700,000 b/d capacity was the most economic and efficient engineering design option to address the bottleneck that would exist in a 200-300 mile segment of the Keystone system. It suggested that the extra capacity from Hardisty would not be necessary if the bottleneck were fixed where it existed.

Dale and Shirley McInnes

Landowners Dale and Shirley McInnes expressed concerns with location of the Grassy Lake pump station. The McInnes' legal representative, Mr. Carter, questioned Keystone about the impact of moving the station to satisfy several concerns expressed by his clients. This will be further discussed in Chapter 7 of these Reasons.

Views of Keystone

Keystone submitted that the Project was appropriately designed. It stated it did not disregard the concerns of Mr. and Mrs. McInnes in siting the Grassy Hill Pump Station. Mr. Cabrejo testified that hydraulic constraints limited the range of station movement to that of a few kilometers from the preferred location. Any movement beyond that distance would require more facilities to be added to the final design. System hydraulics, access to the station, proximity to existing power infrastructure, environmental sensitivities, proximity to houses, constructability and stakeholder input were all considered with respect to the pump station site and Keystone chose the optimal location.

Views of the Board

The Board is satisfied that the proposed Keystone XL Pipeline will be designed, constructed and operated in accordance with the NEB Act, OPR-99, CSA Z662-07, and all the applicable standards, codes, and specifications. The Board also expects Keystone to meet all the commitments it has made in this hearing regarding the safety of construction and operation.

The Board considered the McInnes' concerns about the placement of the Grassy Creek pump station. However, the Board finds that the Project is designed to be hydraulically efficient and that this has resulted in the hydraulically optimal placement of the pump stations within the constraints identified by the applicant. As for the sizing of the pipeline, the Board accepts Keystone's evidence regarding the bottleneck constraint and is of the view that the engineering design will address this constraint and allow Keystone to meet its shipping obligations.

To help ensure the safe construction and operation of the proposed Keystone XL Project, the Board accepts Keystone's commitment to follow the same safety program submitted for the Base Keystone Project and to use TransCanada's Health, Safety and Environment Management System.

The Board's expectations for emergency management are based on the requirements of the OPR-99 and the CSA-731-03 Emergency Preparedness and Response (CSA-731-03).

Keystone XL will be required to apply for leave to open prior to commencing operation of the facilities. Prior to granting leave to open the Board will ensure that the facilities can be operated in a safe and secure manner.

Chapter 7

Land Matters

The Board requires applicants to provide a description and rationale for both permanent and temporary lands required for a project in order to assess the extent of the land to be affected by a project. In addition, applicants are required to advise the Board if they intend to use existing land rights, or if there are areas where new land rights will be acquired on a permanent or temporary basis, and how these land rights will be acquired.

The Board also requires a description of the land acquisition process including the planned timing of acquisition and status of acquisition activities. Applicants must provide the Board with a copy of the sample notices provided to landowners under subsection 87(1) of the NEB Act as well as all forms of acquisition agreements.

7.1 General Route Considerations

The Keystone XL Project will include the pipeline and various associated facilities as described in Chapter 2 of these Reasons.

Corridor and route selection were evaluated by an interdisciplinary team at Keystone using existing reports, public information, aerial photography, field work and data gathered during the routing of the Base Keystone pipeline. Within the preferred pipeline corridor, the Keystone team selected a preferred pipeline route and then sited the pump stations based on several criteria, as described in Chapter 6.

The evaluation criteria used to select a corridor included:

- minimizing length to reduce the overall environmental and socio-economic footprint and ensure facilities are economical to construct and operate;
- paralleling existing infrastructure, wherever practical, to reduce new RoW and Temporary Work Space (TWS) and minimize potential effects on environmental resources and agricultural operations;
- limiting the number and complexity of major river crossings and road, rail and utility crossings; and
- avoiding, where practical,
 - environmental and land use features, such as areas of unstable terrain or problem soils or known sensitive areas (e.g., wetlands, river valleys and springs);
 - sites with known occurrences of provincially or federally listed wildlife and plant species;
 - lands of specific status, such as parks, protected areas, cemeteries and historic sites; and
 - concentrated rural residences and urban developments.

Keystone identified a one kilometre wide corridor within which the detailed route of the pipeline will be located. The route will begin near the Hardisty B Terminal, at LSD SW32-42-9-W4M, in AB, cross into SK, and continue to a point on the Canada-US border near Monchy, SK, LSD SE4-1-12-W3M. (Figure 2-1)

The selection of the corridor was based on the fixed control points of the Hardisty Terminal Site, suitable crossings of the Red Deer River, South Saskatchewan River and Frenchman River; and an international border crossing linking to the U.S. segment of the Keystone XL Pipeline, located near Monchy, SK. For the Alberta segment corridor, Keystone considered paralleling the existing Keystone Pipeline.

Alternatives to the existing Keystone pipeline RoW were also considered for the segment of Keystone XL from Hardisty to Gooseberry Lake and from the Red Deer River crossing to the AB-SK border. These options were not found to be suitable because of issues around constructability, terrain, industrial congestion, and in some cases, additional non-contiguous RoW length would be added.

The total length of non-contiguous RoW is approximately 69 km, with 51 km in AB and 18 km in SK. The rest of the pipeline will be alongside or contiguous to existing pipeline RoW for approximately 460 km of the total 529 km.

For the Saskatchewan segment, the Foothills Pipeline RoW provided a suitable corridor to parallel from the AB-SK border to the international border crossing.

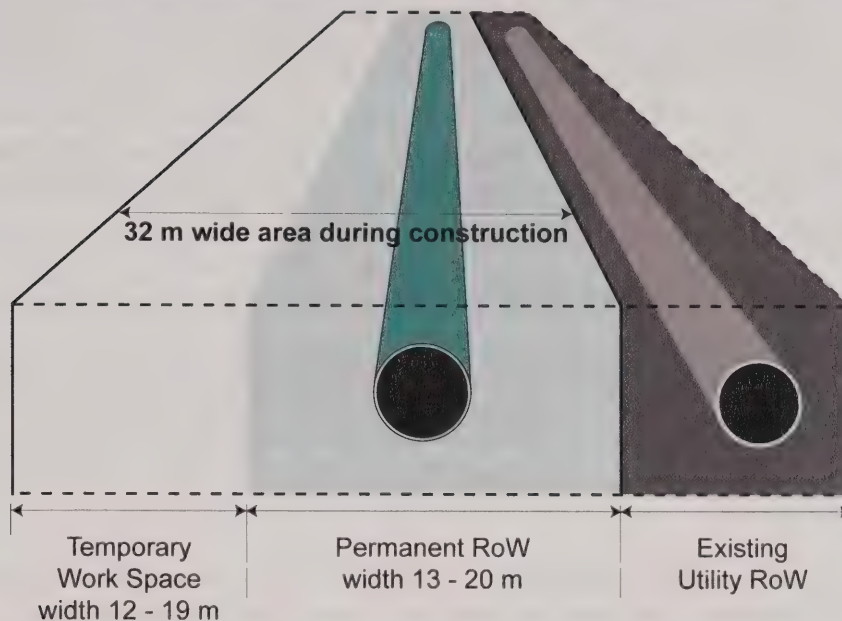
Keystone continues to assess the need for route modifications to address issues that are site specific or in response to landowner concerns.

7.2 Physical Land Requirements

To accommodate construction of the Project, new permanent RoW and TWS will be required. New permanent RoW 13 to 20 metres wide will be acquired through RoW agreement from private landowners, with an additional amount of TWS in some locations which will measure 12 to 19 metres wide. The total width of RoW (including TWS) during construction will be approximately 32 m wide. Please see diagram below.

The change in width of the RoW will occur where RoW will be adjoining, sharing or overlapping existing RoW. Where available and practical, temporary working rights will be obtained from existing contiguous RoWs to reduce the amount of new disturbance. In areas with native prairie, the Project will attempt to reduce the construction RoW width as much as possible. TWS will be required at road, pipeline, and water course crossings and various other locations where site-specific requirements need to be addressed. These will vary in shape and size.

Figure 7-1
Sample Diagram of Contiguous Segment RoW



The RoW will be reclaimed after construction, with the new permanent right-of-way maintained for pipeline operations. The NEB also designates an area which extends about 30 metres beyond both sides the RoW, as a safety zone³, where certain activities are restricted without first obtaining clearance from either the company or the NEB. Following post-construction reclamation activity, the pipeline would operate until such time as an application for decommissioning or abandonment was made. Keystone indicated that it had taken into account both current regulations as it related to abandonment in developing its plan for the Keystone XL Pipeline. Keystone further submitted that it would comply with any changes to the regulations which may be the result of the Board's Land Matters Consultation Initiative actions.

The Hardisty B Terminal and additional pump stations will be located on private lands and these lands will be acquired through fee simple purchase or through long-term surface leases. The Hardisty B Terminal will require an estimated 16.2 hectares of lands, while each pump station will require approximately 2.5 hectares of land. Keystone submitted that the land acquisition for these pump stations would take place starting in September 2009. At the time of the oral hearing, these lands had not yet been acquired.

Dimensions and locations required for the cathodic protection beds will be determined during detailed design. Thirty-two main line valve sites will be required, twenty-four of these will be contained within easements already obtained for the Base Keystone project, the other eight will be located within boundaries of pump stations.

3 For more information about the 30 metre safety zone, please refer to section 112 of the NEB Act or to the NEB publication "Living and Working Near Pipelines", which can be obtained online at <http://www.neb-one.gc.ca/clf-nsi/rthnb/nvlvngthpblc/Indwnr/Indwnr-eng.html> or from the NEB Library (ask for it by title or ISBN 0-662-39386-4).

Views of SCC

SCC submitted that the Keystone XL application failed to assess pipeline decommissioning and that failure to do so was not in the public interest. SCC further indicated that full disclosure for the public interest would require that Keystone assess the decommissioning or abandonment and impending financial liability of the Keystone XL Pipeline. Without this critical information, SCC was of the view that Keystone could not provide an assurance to Canadians that they will not have to cover the costs associated with the decommissioning and abandonment of the Keystone XL Pipeline.

7.3 Land Acquisition and Notification

Keystone submitted that it would comply with the land acquisition provisions and regulations, including sections 86 and 87 of the NEB Act. Along with the section 87 notice, landowners received detailed Project information. Keystone submitted sample documents of section 87 of the NEB Act notices to landowners, and section 86 of the NEB Act agreements for the various types of land rights required.

For this Project, 42 percent of lands required in Alberta will be acquired from the Crown, while in Saskatchewan, 32 percent of the lands required will be acquired from the Crown. Keystone will survey and review the plans for the location of the facilities with the affected Crown agencies and parties. Keystone does not anticipate any issues in the acquisition of these lands. Refer to Table 7.1 for detailed lands information.

Table 7.1
Summary of Land Information

Segment	Alberta	Saskatchewan	TOTAL
Length of Pipeline (km)	269	260	529
Number of Landowners	110	171	281
Number of Occupants (on private and Crown land)	90	90	180

Within the kilometre wide corridor, Keystone identified affected landowners and had served almost all of these landowners with section 87 notices as of 23 September 2009. At the time of the OH-1-2009 proceedings, the acquisition of land rights in Saskatchewan was 99 percent complete while in Alberta it was 80 percent complete.

Views of the Board

The Board finds that the route evaluation criteria applied by Keystone are appropriate and that it is reasonable to locate the majority of the Project route alongside and contiguous to the existing RoWs in order to minimize the environmental and socio-economic impacts of the Project.

The Board finds that Keystone's anticipated requirements for permanent and temporary land rights, including the varied width of RoW, acceptable. The land rights documentation and acquisition process proposed by Keystone are also acceptable to the Board.

The Board notes that approval of this Project includes approval for the general route or one-km wide corridor, as applied for. The Board wishes to note that a determination of the detailed route will be made at the post-certificate stage and will be subject to the process set out in sections 31-35 of the NEB Act.

With respect to abandonment, an application needs to be filed pursuant to the NEB Act if and when facilities are to be abandoned. As a result, the NEB provides regulatory oversight during the abandonment phase and Keystone will be required to comply with applicable regulatory requirements at that time, as well as any conditions attached to any approval for abandonment. The Board has committed to further address the physical and financial issues related to abandonment through its Land Matters Consultation Initiative Stream 3 and 4 actions.

Chapter 8

Public Consultation

The Board promotes the undertaking by regulated companies of an appropriate level of public involvement, commensurate with the setting, nature and magnitude of each project. The Board considers public involvement to be a fundamental component during each phase in the lifecycle of a project in order to address potential impacts. The Board's assessment of consultation with Aboriginal peoples is discussed in Chapter 9, Aboriginal Consultation.

8.1 Keystone's Public Consultation Program

Keystone adopted TransCanada's consultation practice, which is to develop and adapt consultation programs according to the nature, location and effects of a project and the interests, information needs and concerns of various stakeholder groups. The overriding principle of the consultation program is that stakeholders are to be engaged in a fair, honest, consistent and timely manner by Keystone's representatives to ensure they are aware of and have access to relevant Project information, are given an opportunity to ask questions and raise concerns, and have the opportunity to work with Keystone toward resolution of outstanding issues.

Keystone recognized that the purpose, scope and intensity of consultation needed to vary according to the needs and interests of specific stakeholder groups, such as landowners. As a result, stakeholder consultation and communication varied according to anticipated and actual concerns, interests and information needs. Keystone used various factors to determine stakeholder concerns, interests, and needs including: proximity to the route; the potential impact the Project would have on each stakeholder group; the expected timing of potential impacts on various stakeholders; and, additional information gathered during previous consultation activities for the Base Keystone Pipeline project and initial activities for the proposed Project.

Keystone initiated its consultation program in March 2008 at the outset of the Project planning process. The program involved a variety of activities including direct contact with landowners, meetings with interest groups and government officials, public notices, open houses, the establishment of Project toll-free telephone lines, a Project e-mail address and Project website.

Keystone stated that consultations would continue through the construction phase and into operations when stakeholder engagement will transition from the Keystone project team into TransCanada's ongoing Integrated Public Awareness Program and Land, Aboriginal and Community Relations group.

Views of the Parties

Dale and Shirley McInnes filed an application for intervenor status based on concerns related to the proposed location of the Grassy Creek pump station and impacts that this location could have on their property and lifestyle. During the oral portion of the hearing, Mr. and Mrs. McInnes expressed concerns regarding the consultation program undertaken by Keystone. They indicated

that Keystone's consultation program was, in their opinion, insufficient and they provided specific examples of how Keystone failed to provide them with the information they requested or answers to their questions.

The McInnes' also raised the fact that Keystone did not appear to properly document the consultation program given that the McInnes' concerns were not acknowledged within the application submitted by Keystone in February 2009, despite Keystone having become aware of their concerns in the previous year.

Views of Keystone

Keystone stated that stakeholder and community relations are a priority and that it is committed to building and maintaining positive relationships in the communities where its employees live and work. However, Keystone also acknowledged that its engagement with Mr. and Mrs. McInnes had not been perfect. Keystone explained that it had stated in its application in February 2009 that there were no outstanding concerns from residents since it was still involved in discussions with the McInnes' at that time and were hopeful that a resolution would be reached. Keystone further explained that once the McInnes' had engaged legal counsel, Keystone were no longer able to have discussions directly with them.

Keystone committed that it would continue to engage with the McInnes' in order to attempt to resolve their concerns.

Views of the Board

The Board finds that the design of the consultation program undertaken by Keystone for the Keystone XL Project was appropriate for the nature of the Project. The consultation program identified potentially affected stakeholders, used appropriate methods to engage members of the public and established procedures for responding to issues and concerns.

The Board notes that Keystone submitted statements in its application indicating that there were no unresolved stakeholder concerns when, in fact, there were outstanding and unresolved issues. Keystone indicated that it had submitted these statements because it hoped to resolve all outstanding issues prior to the oral portion of the hearing. The Board understands this factual inaccuracy to be with respect to consultation involving the McInnes' and the six other landowner intervenors who resolved their concerns prior to the oral portion of the hearing but subsequent to the submission of the application. The Board wishes to remind Keystone that information in an application must be accurate at the time of submission and should not merely reflect what the applicant hopes will be accurate at some future date.

Keystone did eventually acknowledge that its engagement with the McInnes' was "not perfect". From the evidence, it appears that neither Keystone nor the McInnes' legal counsel made meaningful efforts to

consult once the McInnes' had retained legal counsel. The result of this was that the McInnes' were required to attend the oral portion of a hearing in order to obtain information typically available in an information session. The Board does not consider this to be an optimal use of either a participant's or the Board's resources. Had meaningful dialogue between the McInnes' and Keystone occurred, the McInnes' concerns might have been addressed without the need to intervene in the hearing. The Board notes that Keystone has committed to continuing its consultation with the McInnes' and to working with them to determine an acceptable solution. The Board encourages both parties to engage in productive discussions and to work towards a satisfactory resolution to all outstanding issues.

The Board also expects companies to respond to any complaints received from landowners or the public throughout the life of a project and notes that Keystone has committed to do so.

In the circumstances, the Board imposes Condition 18 which directs Keystone to maintain and, upon request, file with the Board, consultation and complaint monitoring reports.

The Board finds that the consultation program undertaken by Keystone for the Keystone XL project, when coupled with Keystone's stated commitment to work to resolve outstanding concerns and the Board's condition regarding ongoing landowner consultations is adequate.

Chapter 9

Aboriginal Consultation

Whenever a project has the potential to have an impact on Aboriginals' rights or interests, the Board ensures that it obtains as much evidence as possible so that it may assess the potential impacts and factor that consideration into its final decision. In order to ensure its record is as complete as possible, the Board has established a process with three key components:

- As set out in the Board's Filing Manual, project proponents must identify, engage and consult with potentially affected Aboriginal groups prior to the filing of the application. The proponent is required to hear the concerns of such groups and attempt to address their concerns to the extent possible before filing an application. The proponent must report on this work in its application, including any unresolved Aboriginal concerns. Aboriginal groups are encouraged to engage with the proponent so that their concerns may be identified early and there is a greater chance for their concerns to be met before the application is filed.
- Under the Board's Enhanced Aboriginal Engagement initiative, the Board reviews the list of potential affected Aboriginal groups identified in the proponent's project description filed with the Major Project Management Office (MPMO). The MPMO or the Board may suggest revisions to the proponent's list. The Board sends out a letter to each Aboriginal community or organization on the revised list, informing them of the project, the Board's regulatory role concerning the project, and offering to provide further information on the hearing process. Board staff follow up on the letters, sending out information and holding meetings where requested.
- The Board encourages Aboriginals with an interest in the project to make their views known directly to the Board by participating in the hearing process.

9.1 Enhanced Aboriginal Engagement

For the Keystone XL Project, the Board carried out Enhanced Aboriginal Engagement activities between the receipt of the Project Description 18 July 2008 and receipt of the Project Application 27 February 2009. Six Aboriginal communities and organizations requested information meetings on the NEB's hearing process; namely, the Alexander First Nation No. 134 (Alexander), the Blood Tribe, File Hills Qu'Appelle Tribal Council, Piikani First Nation, Samson First Nation, and Stoney Nakoda Nation. They also requested and were sent additional information on the hearing process electronically. Poundmaker First Nation did not request a meeting with the Board but was sent information on the Board's hearing process by means of electronic documents.

Six Aboriginal communities and one Aboriginal organization participated in the OH-1-2009 proceeding; five communities participated as intervenors, while one community and one organization filed letters of comment. The intervenors were Nekaneet First Nation No. 380

(Nekaneet), Red Pheasant First Nation No. 108 (Red Pheasant), the Alexander, Sweetgrass and Moosomin First Nations. The Blood Tribe and Federation of Saskatchewan Indian Nations filed letters of comment. The location of each community relative to the proposed Keystone XL route is shown in Figure 9-1.

Procedural Motions

Sweetgrass and Moosomin First Nations (Sweetgrass and Moosomin) filed a motion requesting that they be permitted to cross-examine representatives of several government departments and participants, arguing that this would help them to determine the adequacy of the Crown's consultation efforts. The Board ruled on this request in two letters dated 8 and 10 September 2009 and an oral ruling on 21 September 2009. These rulings are reproduced in Appendix II. Sweetgrass and Moosomin also made a written request for clarification of the Board's role in the Crown's duty to consult, which the Board answered 31 July 2009. They then filed a motion to adjourn the OH-1-2009 proceeding, which the Board denied 18 September 2009. That ruling is also reproduced in Appendix II. Sweetgrass and Moosomin did not take part in the oral portion of the hearing or make a final argument.

9.2 Aboriginal Engagement by Keystone

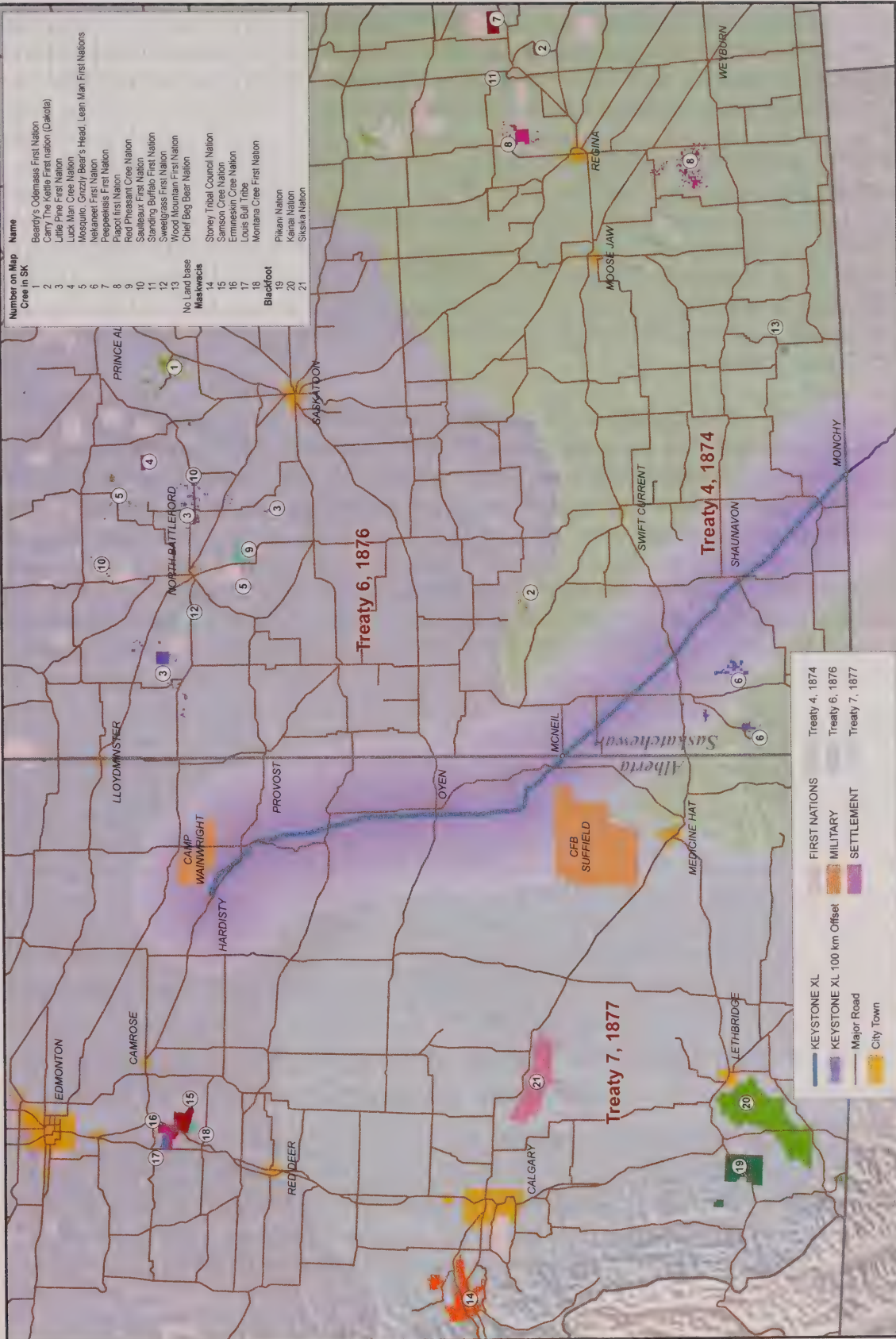
Keystone stated that it commenced work on its Aboriginal Engagement for the Keystone XL Project in the spring of 2008. It said that its Aboriginal Engagement process was intended to:

- Identify the potential effects of the Project on current traditional land use activities;
- Identify sites of cultural and historical importance to Aboriginal people that may be affected by the Project;
- Gather local and traditional knowledge (TK) relevant to the Project;
- Build and enhance relationships relating to community expectations and protocols.

Keystone began its Aboriginal Engagement process by researching the proximity of the Project area to reserves or other lands designated as future reserves under the *Indian Act*, Métis settlements and communities, and areas of traditional land use. Keystone noted that its pipeline route crosses the regions covered by Treaties 4, 6, and 7 but that it does not cross any reserves or lands designated for reserve status. Keystone then developed a contact list of potentially impacted Aboriginal groups based on an initial 50 km engagement zone centred on the Project RoW. Keystone chose the 50 km corridor because it considered this to be a reasonable commuting distance for work. Nekaneet and Carry the Kettle First Nations fell within this 50 km engagement zone.

To validate and update its contact list, Keystone began to contact the Aboriginal communities, organizations, and government officials. The final contact list included seven organizations and 26 First Nations, all of whom were advised of the Project via an information package for review and feedback. If a community or organization did not respond to calls following up on its information package or otherwise express interest in the Project, Keystone did not contact them again.

Figure 9-1



Keystone's Aboriginal Engagement tools included open houses, newsletters, advertisements, notices, fact sheets, brochures, telephone calls, a toll-free telephone project line, and a project website. In Keystone's view its most important tools were face-to-face meetings and encouraging the development of 'Aboriginal coalitions.'

In its early Aboriginal engagement work, Keystone stated that Aboriginal communities expressed interest in a collaborative approach to assessing potential project effects. In response to this interest, Keystone assisted in the development of 'Aboriginal coalitions' as a means for communities to work together to gather traditional knowledge and traditional land use information relevant to the Project. The Nekaneet Coalition in Saskatchewan and the Maswacis Coalition in Alberta were formed as a result of this initiative. Keystone stated that the coalitions were formed in recognition that the lands traversed by project were historically occupied Cree, Blackfoot, and Métis.

Keystone reviewed the mitigation recommendations from the Nekaneet and Maskwacis Coalitions and committed in its application to incorporate those recommendations into its construction and environmental protection plans where possible. It also stated that information from Aboriginal communities inside and outside the coalitions was used to guide avoidance and testing of culturally sensitive sites.

Keystone stated that during the construction phase, it would continue to follow its Aboriginal Engagement process. For the operations phase, Keystone stated it would adopt TransCanada PipeLines Ltd.'s Integrated Public Awareness program as a means to continue its Aboriginal engagement.

Views of the Parties

Nekaneet, Red Pheasant and Alexander all expressed the view that Keystone's consultation program was inadequate. Nekaneet said that it had neither sanctioned nor agreed to participate in the coalition named for it, and that the coalition did not meet its consultation needs. Nekaneet described its meetings with Keystone as non-substantive and unhelpful. In her oral testimony, Chief Alice Patayken, speaking on behalf of Nekaneet, testified that she was concerned about Keystone's Aboriginal consultation process because between April 2008 and February 2009 there was no recognized council representing Nekaneet. Chief Pahtayken stated that once she had been recognised as chief, she did contact David Cole, the Keystone XL contact to request a meeting with his superiors, but no meetings had happened yet.

Red Pheasant Band Councillor, Mr. Vince Sauvie, testified that Keystone had not met with its consultation manager and that Red Pheasant never agreed to participate in the coalitions.

In written evidence Sweetgrass and Moosomin expressed concerns with the structure and role of Aboriginal coalitions. They stated that they were not satisfied that these coalitions could represent their concerns and interests, since they had not been contacted by the coalitions or participants in them. Sweetgrass and Moosomin submitted that in any case, Keystone had no independent duty to consult or accommodate, nor could Keystone fulfill the Crown's duty in those areas.

The Board received letters of comment from the Kainai (Blood Tribe) First Nation and the Federation of Saskatchewan Indian Nations (FSIN). Both letters expressed dissatisfaction with Keystone's consultation program. The Blood Tribe noted that it had been in contact with Keystone in an effort to resolve its concerns about potential Project impacts on the Blood community and traditional lands. It declared that it had no meaningful consultation with Keystone up to the date of its letter. The Blood Tribe suggested that this may be due to a misunderstanding through which Keystone may believe other First Nations could speak for the Blood community. Finally, the Blood Tribe urged the Board not to approve the application until meaningful consultation had occurred between it and Keystone. FSIN also stated that not all First Nations potentially affected by the Project had received a Project Description, and questioned the TK study's ultimate validity since it was carried out without FSIN's knowledge or input.

Views of Keystone

Keystone asserted that both Nekaneet and Red Pheasant had made unfounded statements about its Aboriginal Engagement work. Keystone stated that the body of evidence showed a record of engagement with both Nekaneet and Red Pheasant. It declared its appreciation of the participation of Nekaneet members in the TK study for the Project. In addition to its engagement with Nekaneet through the TK study, Keystone stated that it had contacted Nekaneet numerous times, including contacts specifically with Chief Pahtayken. As for Red Pheasant, Keystone acknowledged that there had been no face to face meeting with the Chief-in-Council of Red Pheasant, but stated that it had twenty-six points of contact with the community, twenty-three of which were with the consultation manger for Red Pheasant. It understood from Red Pheasant that it did not agree with and did not wish to participate in the TK study and would only engage in bilateral discussions regarding the Project if a compensation and investment agreement were concluded in advance. Keystone stated that it did not believe that this was a reasonable pre-condition to attach to a project-specific agreement. Keystone sent a letter to Chief Wuttunee of Red Pheasant on 23 July 2009 offering to meet, but it did not receive a response to the letter and has not taken any further action to pursue a meeting.

Keystone stated that participation in the cultural-based coalitions was voluntary and that it was Aboriginal groups that proposed the coalition concept. The First Nations that had expressed an interest in the area of the KXL project have had no access to the lands for the last 100 years as they were privately held or were occupied Crown lands. However, they believed that the lands potentially hold cultural and historic sites. Keystone stated that that field work is ongoing and that it would ask the coalitions to present their information to other Aboriginal communities that have an interest in the Project.

Finally, Keystone stated that it had agreed in principle to pursue a memorandum of understanding with the Blackfoot Confederacy to set parameters for a cooperative relationship and stated it would consider working directly with the Blood Tribe, which is a member of the Confederacy.

9.3 Impacts of the Project on Aboriginal People

Views of Keystone

Keystone summarized the key issues raised by Aboriginal communities for the Project in its application as follows: potential impacts on traditional territories, proximity of the Project to the Great Sand Hills, interpretation of certain heritage and traditional sites, job training, and education. Keystone stated that it understood that none of the lands traversed by the Project were currently being used for traditional purposes, and no Aboriginal communities had advised it of current traditional land use activities on those lands. Aboriginals' access to the lands on the pipeline route for traditional activities has been limited for approximately 100 years. Keystone was able to obtain permission to access lands for the TK study, and stated that Aboriginal communities involved in the study expressed appreciation for Keystone's assistance accessing their traditional lands within the engagement zone. Keystone recognised that some communities had expressed concern about the potential for the Project to affect sacred sites and other sites of cultural and historical importance.

Keystone stated that it has gathered and used information to mitigate or avoid site impacts, and recognized that avoidance of certain sites was the preferred mitigation strategy of Aboriginal communities. In view of that preference, Keystone stated that where possible it would seek to avoid such sites by means of temporary fencing, narrowing of the RoW during construction, relocation of extra workspace, and in some cases by rerouting. Where avoidance is not possible, Keystone stated effects on archaeological resources would be mitigated by archaeological excavation according to the applicable provincial heritage legislation.

Keystone noted a second concern shared by all the Aboriginal communities that responded to the information package was the potential effects of the Project on the boundaries of the Great Sand Hills. It stated that it was continuing to work collaboratively with Aboriginal groups on potential mitigation measures to address this concern. Keystone stated that it was committed to developing a detailed reclamation plan specific to the portion of the Great Sand Hills traversed by the Project, in addition to standard mitigation measures.

Keystone stated in its application that certain vegetation and rock formations located during heritage surveys were interpreted differently by different Aboriginal participants. It acknowledged that this had complicated the process of impact identification and mitigation, but that it was continuing to facilitate dialogue to support the communities as they took part in the process.

Considering economic effects, especially opportunities for employment and training potentially raised by the Project, Keystone stated that where opportunities exist it would work with the communities to build their capacity to take advantage of them. Keystone stated in its application that the coalitions had opted to defer examining these opportunities while land and environmental matters related to the Project are under review. In updates to its evidence since the submission of its application, Keystone noted that it has actively funded training programs for coalition community members and provided information to coalition and non-coalition members to enable their contractors to compete for jobs associated with TransCanada Pipelines Ltd. pipeline projects.

Views of the Parties

Nekaneet and Red Pheasant expressed concerns about potential environmental, spiritual, cultural and historical impacts from the proposed project in both their interventions and their written evidence. They also each requested that the Board protect important cultural sites should the Project be approved, including the Great Sand Hills, tipi circles, and medicine wheels. Each First Nation named several specific sites as well, including the Cypress Hills/Fort Walsh and Assiniboia Mission Massacre [site] for Nekaneet and the areas around Sounding Lake, Battle River, and Eye Hill Creek for Red Pheasant.

Chief Pahtayken testified that Nekaneet members continue to use their traditional lands for ceremonies, medicine gathering, berry gathering, and hunting. When questioned by Board counsel about potential Project impacts, Chief Pahtayken expressed concerns about the pipeline potentially exploding and the overall consultation process. Asked by Board counsel for suggestions on how to mitigate negative Project impacts, Chief Pahtayken recommended following the Creator's laws.

Councillor Sauvie testified that Red Pheasant members continue to use their traditional and treaty territory for hunting, spiritual gatherings and ceremonies, medicine and berry gathering, burials, and offerings to sacred sites. When asked about potential impacts on these activities from the Project, Councillor Sauvie said he could not answer because Red Pheasant did not currently have the capacity to provide that information. He suggested that potential negative Project impacts could be mitigated through appropriate consultation by Keystone.

Nekaneet and Red Pheasant expressed interest in opportunities for economic benefits from the Project in the areas of training, business, contracting, and general employment, especially in the longer term. Nekaneet and Red Pheasant each referred to what they described as an "Aboriginal content clause", and their concern that it should be applied in a way that did not unfairly disadvantage First Nations.

Alexander First Nation, Blood Tribe, and the Federation of Saskatchewan Indian Nations

Alexander stated it had concerns about the Project's potential environmental, spiritual, cultural, and historical impacts. In its letter of comment, the Blood Tribe briefly discussed potential impacts on cultural heritage bound up with its traditional lands and the maintenance of current practices on those lands. The Blood Tribe reiterated that in its view it is necessary to engage them directly in order to identify and handle potential impacts specific to the Blood community.

FSIN stated in its second letter of comment that there were gaps in Keystone's information about potential impacts of the Project on First Nations, giving as an example the hunting areas the Project would cross. It stated that the 50 km engagement zone was therefore flawed as it did not take into account such information.

Sweetgrass and Moosomin First Nations

Sweetgrass and Moosomin stated that they had concerns about the potential impacts of the Project on their treaty and Aboriginal rights, their ability to select lands under Saskatchewan's *Treaty Land Entitlement Act*, and wider concerns about potential environmental, spiritual,

cultural, and economic impacts. They went on to note in their written evidence that the Project would cross their traditional lands, described as encompassing parts of Alberta, Saskatchewan, Manitoba, the Northwest Territories, and the northern United States. On being asked by Keystone and the Board to provide more information on the adverse impacts they anticipate, Sweetgrass and Moosomin stated they would not provide this information until their communities had been meaningfully consulted by the Crown. They repeated this response to the Board's request for recommendations on how to mitigate any negative Project impacts.

Views of the Board

Consultation Process

When reviewing an applicant's Aboriginal consultation program, the Board looks for several things. First, did the applicant identify and contact the right Aboriginal groups? Second, did it effectively identify and, to the best of its ability, address the concerns raised? Third, did it provide comprehensive information to the Board on its activities and on resolved and outstanding issues? The applicant's early engagement with Aboriginal groups is a critical part of the regulatory review process. It facilitates a timely exchange of information and an opportunity for Aboriginals' concerns to be addressed at the project design phase; it can help establish productive relationships that can carry on throughout the life of the project; and it informs the Board of the concerns Aboriginals may have about a project's impacts. The scope and extent of the consultation that needs to be carried out by an applicant is determined, to a large degree, by the nature of the project and its potential to have impacts on Aboriginals' rights and interests.

The Board heard a great deal of evidence about Keystone's Aboriginal engagement program both from Keystone and Aboriginal intervenors. A number of Aboriginal intervenors expressed dissatisfaction with the program and complained that they had not been adequately consulted. After carefully considering all of the evidence, the Board has concluded that Keystone's program was satisfactory and that the appropriate Aboriginal groups had the opportunity to provide their views on the Project either to Keystone, the Board, or both. Keystone's 100 kilometre wide corridor centered along the proposed route of the pipeline was a reasonable starting point for its consultation program. Keystone also contacted and consulted additional groups outside of this corridor when it received recommendations of the Aboriginal groups they had already contacted and those of federal and provincial departments.

The Board finds that the design of the consultation program was adequate for the purpose of identifying and understanding the potential impacts of the Project on Aboriginal people. Despite some communication challenges, Keystone meaningfully engaged Aboriginal groups potentially impacted by the Project or provided a reasonable opportunity for

potentially affected groups to discuss their concerns. The Board is also satisfied that Keystone has committed to ongoing consultation throughout the life of the Project with Aboriginal groups both inside and outside of the community coalitions.

The Board notes that at times Keystone had difficulty in identifying the proper contact within a community or getting a timely response from some groups. The Board expects proponents to make more than one or two attempts to engage with potentially affected Aboriginal groups, but the Board also encourages Aboriginal groups to avail themselves of the opportunity to engage with proponents. While it is certainly not a requirement that Aboriginals do so, it is a very effective way to have their concerns addressed before certain key decisions are made by the proponent. It is open to Aboriginals to bring their concerns directly to the Board but they cannot complain of an inadequate proponent consultation process if they do not make reasonable efforts to identify who their representatives will be or actively engage in discussions with proponents. The Board encourages Keystone to continue to develop its communication protocols with Aboriginal groups, especially where the protocols may assist in resolving confusion about community representation.

The Board notes that some Aboriginal groups that did not participate in the community coalitions had concerns with the TK studies produced by the coalitions. They stated that TK studies produced without their clear input could not adequately meet their needs. The Board is supportive of efforts to approach Aboriginal engagement in innovative and culturally appropriate ways but notes that the use of coalitions should not preclude Aboriginal groups not involved in the coalitions from providing their views to Keystone directly. Keystone should continue to consult with Aboriginal groups with interest in the Project area even if they are not participating in the coalitions.

The Board has proposed a condition that would direct Keystone to continue to consult with Aboriginal groups who have expressed interest in the Project about the details of the construction phase of the Project and its plan for monitoring procedures for the protection of Aboriginal heritage and traditional resources. Keystone would also be directed to provide the Board with an update on its Aboriginal consultation activities prior to the commencement of construction.

Potential Impacts of the Project

In terms of the potential adverse physical impacts of the Project, the Board notes that there were suggestions of current traditional use over the proposed route, but no specific evidence of such use was provided. A significant proportion of the pipeline would be on privately held lands or occupied Crown land and there was no evidence that there would be any

impacts on areas where traditional activities are currently carried out by Aboriginals. The Board therefore has no evidence that there would be any adverse impacts from the Project on traditional use of the land by Aboriginals.

A number of Aboriginal participants, both intervenors and those providing letters of comment, expressed concerns regarding how the proposed Project could impact sacred, historical, archaeological, and otherwise significant sites. The Board notes Keystone's commitment to ongoing Aboriginal consultation and engagement during construction and operation via the implementation of TransCanada PipeLines Ltd.'s Integrated Public Awareness program. As noted above, the Board will impose a condition to this effect. The Board also notes Keystone's commitment to incorporate mitigation recommendations from the community coalitions wherever possible. Should significant sites be discovered, Keystone will be required to implement the procedures defined in the heritage and resource acts of Alberta and Saskatchewan and the provisions in its environmental protection plan.

With respect to concerns expressed about the Great Sand Hill area, the Board notes Keystone's commitment to continue to work collaboratively with Aboriginal communities. The Board also notes that Keystone committed to developing a detailed reclamation plan for the area traversed by its pipeline. Details of environmental effects and mitigation measures related to this area are further discussed in the Environmental Screening Report. The Board will impose a condition to require Keystone to file a detailed reclamation plan specific to this area in its Environmental Protection Plan.

Economic opportunities and capacity building were key areas of concern for all Aboriginal groups that participated in the hearing or provided letters of comment.

Keystone stated in its application that it will take part in capacity-building work with Aboriginal communities, which may include training and jobs related to the Project. So far Keystone has followed through on this commitment through sponsorship of training programs and provision of training and information registration requirements to Aboriginal-run companies. The Board would encourage Keystone to continue to work with Aboriginal communities to ensure they have an opportunity to participate in training and an equal opportunity to compete for work on the proposed project, should it be approved.

Chapter 10

Environment and Socio-Economic Matters

The Board considers environmental and socio-economic matters under both the CEA Act and the NEB Act. The Board requires applicants to identify and consider the effects a project may have on biophysical and socio-economic elements, the mitigation to reduce those effects, the significance of any residual effects once the mitigation has been applied and enhancements of project benefits.

This chapter summarizes the environmental assessment (EA) process used by the NEB in evaluating the Project. It also addresses matters raised during the hearing process and not wholly covered within the CEA Act ESR, including EA process-related questions raised by the SCC. Finally, the chapter covers socio-economic issues not assessed under the CEA Act.

10.1 Environmental Screening Process

The Project as proposed requires a Certificate under section 52 of the NEB Act, which triggers the requirement for an EA under the CEA Act. Since the Project entails less than 75 km of new RoW, as defined in the CEA Act *Comprehensive Study List Regulations*, the Project is subject to a screening level EA under the CEA Act.

Pursuant to the CEA Act *Regulations Respecting the Coordination by Federal Authorities of Environmental Assessment Procedures and Requirements* (Federal Coordination Regulations), the NEB coordinated Responsible Authority (RA) and Federal Authorities involvement in the CEA Act EA which was conducted within the NEB hearing process.

Following the oral portion of the hearing, the Board issued a draft ESR on 01 December 2009 for a two week public comment period. The Board received comments from Transport Canada and Environment Canada, along with a response to those comments from Keystone.

The final ESR reflects comments received during the public comment period and the Board's assessment of the bio-physical and socio-economic effects of the Project and mitigation measures, based on the description of the Project, factors to be considered, and the scope of those factors. The ESR also includes recommendations for conditions to be included in any Board regulatory approval and finally an evaluation of the likelihood of significance for any adverse effects.

Views of the Board

With respect to its regulatory decision under the NEB Act, the Board has considered the ESR and the recommendations included therein.

The Board determined in the ESR that, with the implementation of Keystone's environmental protection procedures and mitigation measures

and the Board's recommendations, the proposed Project is not likely to cause significant adverse environmental effects.

As part of the approval for the Project, the Board therefore adopts the recommendations contained in the ESR, and will include these as conditions in the Certificate.

For details regarding the Board's assessment of the environmental and socio-economic effects under the CEA Act, the ESR is included as Appendix IV of these Reasons.

10.2 EA Process- related Questions Raised by the SCC

While the SCC did not file any intervenor evidence, it conducted extensive cross-examination of Keystone and it submitted written final argument. Overall, SCC challenged Keystone on three main areas which it argued Keystone should have addressed:

1. upstream oil sands production and downstream refining and the relationship of these to the scope of the Project and environmental assessment of direct and cumulative effects;
2. Project-related greenhouse gases (GHG) and its associated climate change impacts; and
3. questions around scenarios for early decommissioning.

Views of the Parties

The SCC argued that Keystone did not meet the requirements and accountabilities under section 16 (1)(a) of the CEA Act. The SCC raised questions concerning the details of the past, present or future projects or activities that were considered in the assessment of cumulative effects. The SCC emphasized that Keystone's application and assessment made numerous references to the Alberta oil sands as the primary source of oil for the Keystone XL Pipeline and to the USGC as the refining market. The SCC also raised questions relating to GHG emissions from the oil sands and downstream refining of oil. The SCC sought to establish that upstream oil sands production and downstream refining have a direct correlation and causal relationship to the proposed Project and that Keystone failed to address their direct and cumulative effects in its assessment.

In particular the SCC argued that Keystone did not include cumulative effects from the sourcing of oil or the refining or end use of this oil on climate, air quality, water, wetlands, habitat fragmentation, biodiversity, wildlife, community health, farming and food production.

With respect to GHG emissions from the pipeline itself, the SCC questioned the methodology for predicting the emissions from the Project, including the quantification and analysis of emissions associated with the Project. The SCC argued that Keystone failed to provide a scientifically defensible assessment, inventory, modeling and analysis of GHG emissions and of climate change impacts associated with the pipeline.

Finally, the SCC stated that Keystone failed to present decommissioning scenarios that consider the potential for limited oil supply and demand due to possible emerging climate change legislation in Canada and the United States, such as cap-and-trade and carbon tax policies. These scenarios could constrain oil production which could then lead to underutilization and the need for decommissioning of the Project earlier than its projected 40 year lifespan.

Views of Keystone

Keystone submitted that the scope of this ESA was based on the NEB Filing Manual, sections 15-16 of the CEA Act, and included the physical works for which Keystone applied for as well as the activities and undertakings directly related to those physical works. Keystone's ESA defined the biophysical and socio-economic elements to be assessed and the spatial and temporal boundaries for each of those. Keystone stated that the list of physical works or activities does not include any facilities associated with either upstream or downstream facilities as these are outside the scope of the Project assessed under NEB Act or CEA Act.

With respect to the consideration of cumulative effects under the CEA Act, Keystone contended that this requires an assessment of the potential for the residual effects of the Project to combine or overlap with the effects of past, present or planned projects. Keystone stated that an inclusion list was developed to identify the existing and future projects that would overlap with the potential effects of this project, as described in section 8.5 of the ESR. In addition, the past projects were captured within the baseline conditions assessed for the Project.

In addition, Keystone stated that the development of the oil sands is subject to a separate regulatory review process which presumably considers the effects of their development, including greenhouse gas emissions.

With respect to the GHG emissions from the Project itself, Keystone acknowledged that it did not conduct any modeling or quantitative assessment to generate hard numbers and the assessment was solely based on professional judgment and its past experience with other pipeline projects.

Keystone submitted that the GHG emissions from the Project are minimal as compared to provincial or national inventories. Keystone argued that the Project will not emit any GHG emissions other than those from pipeline construction related to construction equipment.

Keystone stated that the ESA did not consider any emerging climate change policies or programs that would limit the oil supply and demand and hence, the potential for early decommissioning. Keystone speculated that its shippers may have considered climate change policy scenarios in evaluating the Project.

Views of the Board

The Board notes the evolving and increased public awareness and demand for information around the issue of climate change and GHG emissions. As part of its public interest mandate, the Board in this instance chose to allow SCC's line of questioning as to the nature of the relationship

between the Keystone XL project and other projects or activities with environmental impacts.

The facts before the Board established that the Keystone XL Pipeline commences at the Hardisty, AB hub, which receives various types of oil from numerous upstream sources (Figure 3.2). The Applicant is not applying to produce or supply the product it proposes to ship. Further, the upstream facilities are or will be regulated by other governments and operated by numerous corporate entities. Similar circumstances apply downstream where the project could deliver crudes to several refineries, in Texas and Louisiana

After considering the evidence, the Board is not convinced that there are sufficient grounds for it to include a consideration of the upstream or downstream facilities either under the CEA Act or NEB Act.

Considerations under the CEA Act

While the CEA Act does not provide specific direction for determining which physical works should or should not be included within the scope of a project, it is common practice that the scope of a project under the CEA Act include only those physical undertakings that are applied for by the proponent or are likely to be carried out in relation to the proposed physical work. This includes the Project's construction, operation and abandonment as well as any ancillary or subsidiary undertakings.

Based on the factual points noted above, the Board determined that there were no other physical works that were of sufficient relation to the Project to be included in the scope. The upstream and downstream facilities mentioned by SCC are not part of the applied-for project, are not undertakings that will be carried out by the Proponent in relation to the Project and are not directly related to the Project. As a result the Board was of the view that they were not properly part of the scope of the project or the scope of the environmental assessment⁴. Moreover, there is nothing in the CEA Act to suggest that it is within the intent or ambit of that Act for a project-specific EA to require a broad assessment of a whole industrial sector even if aspects of it are indirectly related to the project in some fashion.

Under the CEA Act the Board examines the environmental effects of the project and the cumulative effects that are likely to result from the project in combination with other projects or activities that have been or will be carried out. The Board may consider specific effects from other projects or activities, to the extent that they interact cumulatively with the effects of the Project. The Board notes that this necessarily requires a

4 Refer to the Scope of the Environmental Assessment, attached to the ESR in Appendix IV of these Reasons

measurable or demonstrable residual effect, from both the primary project as scoped as well as from the other projects or activities being considered, and there must be an interaction or overlap between the effects. The Board is of the view that the spatial extent of Project effects on air quality, water, wetlands, habitat fragmentation, biodiversity, wildlife, and other socio-economic elements is not widespread enough to interact with or meaningfully cumulate with effects from upstream or downstream projects or activities. As for cumulative effects related to climate change the Board notes the distinction between emissions and potential climate change effects resulting from emissions. The Board is of the view that in this case, while there may be minor residual emissions, these are likely not sufficient enough to meaningfully contribute to the appropriate provincial or national inventories from which climate change effects may begin to be assessed.

NEB Act Considerations

The Board has on numerous occasions stated that its mandate under the NEB Act includes a consideration of the environmental and socio-economic impacts of a project as part of its consideration of whether the project is in the public convenience and necessity. When the Board is asked to consider the impacts of upstream or downstream facilities that are somewhat related to but not part of the project under consideration, the Board looks to see if there is a nexus, or direct connection, between the upstream or downstream facilities and the applied-for project.

In the Board's view there is no evidence of a connection or nexus between the applied-for project and other projects or activities which would make emissions from upstream activities relevant to the Board's considerations in this Application. The operation of the upstream facilities is not contingent on the construction of the Keystone XL pipeline; they will presumably continue to operate whether or not KXL is ever built. Further, an examination of the effects of these activities will not inform the Board's decision under section 52 of the NEB Act and will not assist the Board in determining if the Application is in the public convenience and necessity. Similarly, the Board considers that the downstream refining and use of the oil products shipped on the Project is too remote and not relevant to its consideration of whether this project is in the public convenience and necessity.

With regard to SCC's claim that Keystone failed to inventory, model and quantify GHGs from the Project, the Board is not persuaded that this means that GHG emissions from the Project would be of material importance. However, being mindful of transparency, accountability and public concern, the Board believes it appropriate, and that it would be advantageous, for Keystone to quantify its Project GHG emissions and

confirm the assumption of negligible emission volumes and rates. To this end the Board has chosen to impose condition 15.

With respect to questions raised by SCC concerning emerging climate change policies that could affect supply and demand and so the need for, or early decommissioning of, the pipeline, the Board notes that there is no evidence to demonstrate how or why such a scenario would necessarily result in early decommissioning or how likely this may be. Consequently the Board is of the view this is more speculative than likely.

10.3 Socio-Economic Matters

The Board expects companies to identify and consider the impacts projects may have on socio-economic conditions including the mitigation of negative impacts and the enhancement of project benefits.

Potential socio-economic effects covered by the CEA Act are included in the ESR. The CEA Act contemplates indirect socio-economic effects caused by a change to the environment as a result of the Project. Direct socio-economic effects caused by the existence of the Project itself are assessed under the NEB Act and are discussed below.

10.3.1 Infrastructure and Services

Keystone indicated that there may be insufficient accommodations for pipeline construction workers in certain areas, particularly in areas within Saskatchewan.

Keystone stated that the responsibility for worker accommodations will reside with the various contractors who will be performing work on the Project. As part of the tender process, prospective contractors will be requested to provide their plans to house workers for Keystone's review and approval, which may include the use of construction camps. Where technically and economically feasible, such camps will be located at sites previously used for similar purposes, such as those previously used in Oyen, Alberta for the Base Keystone project and in Shaunavon, Saskatchewan for Foothills.

Preliminary project plans for the Keystone XL anticipate the installation of a sleeper type camp, in the towns of Oyen, Alberta (or area) and in Shaunavon, Saskatchewan (or area). A sleeper camp provides for worker sleeping accommodation (i.e. like a motel) complete with washroom/shower facilities, but not for kitchen facilities. This is a similar arrangement to that which is currently being used in Oyen for the Base Keystone project.

Keystone indicated that preliminary discussions with representatives from the Town of Oyen and the Town of Shaunavon have indicated a positive response to hosting temporary construction camp and a desire to work closely with Keystone and its contractors as details of the requirements for camp type accommodations become better defined (e.g. timing, location, size of camp, number of workers). Both the Town of Oyen and the Town of Shaunavon have offered suggestions of possible suitable sites for the location of a temporary camp on municipal property.

Keystone has committed that all applicable municipal and provincial government approvals for the installation and operation of any temporary construction camp will be acquired prior to use. Furthermore, Keystone or its contractors will clearly define rules, consequences, security protocols and other expectations of workers using the camps.

Keystone indicated that while the temporary nature and relatively short duration of pipeline construction will not have significant long term effect on the communities, the short-term impact of increasing the accommodation and food service utilization of the communities and maximizing the benefits to the local economy will be positive.

Views of the Parties

No party to the proceedings raised concerns, nor were any comments received with respect to the impacts to infrastructure and services from the Project.

10.3.2 Employment and Economy

Keystone submitted that the total direct and indirect jobs created during construction of the facilities would amount to approximately 5310 person-months of employment and an estimated CDN\$58 million in wages and salaries. Additional property taxes, amounting to an estimated CDN\$8 million, will be paid each year to municipalities in which the pipeline and Hardisty B terminal are located.

Views of the Parties

The AFL and the CEP expressed concerns about the missed opportunities for job creation locally, regionally and nationally due to the lack of value-added processing of oil products to be shipped on the Keystone XL pipeline. This issue is discussed in Chapter 4.

Views of the Board

The Board finds that the socio-economic impacts of the Keystone XL Project will be of a temporary nature and limited to the relatively short duration of pipeline construction without significant long term effect on the surrounding communities. The Board notes Keystone's evidence that directly affected towns have indicated a positive response to hosting temporary construction camps and that there was no contradicting evidence that the short term impact of increasing the accommodation and food service utilization of the communities would be positive to local economies. As to AFL and CEP's concerns with respect to foregone job opportunities in the refining and upgrading industries, the Board's views on this matter are given in Chapter 4 of these Reasons.

Chapter 11

The Board's Public Interest Determination

11.1 The Canadian Public Interest

The Board promotes safety and security, environmental protection and efficient energy infrastructure in the Canadian public interest in its regulation of pipelines, international power lines and energy development. With respect to the Keystone XL application, it is the role of the Board to determine if the Project is in the public convenience and necessity pursuant to section 52 of the Act.

In making this determination the Board has regard to all considerations that appear to it to be relevant, including any public interest that may be affected by the granting or the refusing of the application. The Act provides the Board with flexibility and broad powers, but the Board must interpret and implement the Act in ways that serve the Canadian public interest.

All issues and concerns before the Board were considered in the context of the entire lifecycle of the Project (i.e., design, planning, construction, operation, decommissioning and abandonment).

The Board has described the public interest in the following terms:

The public interest is inclusive of all Canadians and refers to a balance of economic, environmental and social interests that change as society's values and preferences evolve over time. As a regulator, the Board must estimate the overall public good a project may create and its potential negative aspects, weigh its various impacts, and make a decision.⁵

Under the NEB Act, the factors to be considered and the criteria to be applied in coming to a decision on whether a project is in the present and future public convenience and necessity may vary with the specific application, including the nature of the proposed project, its location, the commodity involved, the various segments of the public affected by the decision, and the purpose of the applicable section of the NEB Act.

When applying the “present and future public convenience and necessity” test under Part III of the NEB Act, the Board is required to identify and weigh all relevant evidence on the record and come to a determination whether the project is in the public interest and the present and future public convenience and necessity. There are typically both benefits and burdens associated with each application and the Board must apply its reasoned judgment, based upon a considered analysis of the evidence properly before it, to come to its final determination.

Section 11.2 provides the Board's assessment of the overall benefits and burdens of the Keystone XL Pipeline in relation to its decision under section 52 of the NEB Act.

5 GH-1-2006 Reasons for Decision dated May 2007, Chapter 2, page 10.

11.2 Weighing of Benefits and Burdens of the Keystone XL Pipeline

Benefits

In the Board's view, the economic benefits of the Keystone XL Pipeline are derived mainly from increased competition and additional transportation options for shippers. The Board is satisfied that the Project will help ensure that adequate capacity exists to connect growing WCSB supply to the large USGC market which the Board views as a large, long-term and strategic market for western Canadian crude oil. In this regard, the Keystone XL Pipeline will help ensure that all producers realize netbacks that reflect the full market value of their production. Canadian crude oil netbacks provide revenues to governments and to industry to make social and economic investments. In the Board's view, these investments benefit all Canadians.

By opening new markets for Canadian crude oil, the Board is of the view that the Keystone XL Pipeline would alleviate the economic risk associated with saturation in existing markets. The significant financial commitments made by shippers through binding agreements to ship 60 300 m³/d (380 Mb/d) of crude oil for an average of 17 years indicate to the Board that the USGC will prove to be a profitable long-term market for Canadian crude oil.

Burdens

While the Board agrees with Keystone's assessment that no excess pipeline capacity currently exists before connecting western Canada and the USGC, it was demonstrated during the proceeding that if this Application is approved there may, for some time, be physical excess pipeline capacity for western Canadian crude oil exports. During the proceeding, the Board heard evidence that existing pipelines may experience some degree of offloading for a period of time and shippers on these systems could potentially incur higher tolls as a result. This, could potentially include a period of lower netbacks to producers in the short term. Consequently, the Board is of the view that the economic burdens of the Project concern mainly the costs to commercial third parties.

Secondly, under the CEA Act, the Board concluded that the Project is not likely to cause significant adverse environmental effects; however, there will still be some physical effects and the Board considered these under the NEB Act. The Board notes that there will be some increase in ambient noise levels from pump station operations, air emissions generated from various components of the construction and operation of the Project, a potential loss or alteration of some wildlife and wildlife habitat and impacts on vegetation along the RoW. Finally, the Board notes that a project of this nature will have an impact on landowners and those with interests in the land on the RoW, particularly during the construction phase.

Balancing of Benefits and Burdens

In weighing the benefits and burdens for this Project, the Board has determined that the benefits of the Keystone XL Pipeline outweigh the burdens. Most western Canadian producers are likely to benefit from the Keystone XL Pipeline in the long run through broader market access, greater customer choice and efficiencies gained through competition among pipelines. On the other hand, there may be physical excess pipeline capacity for western Canadian crude oil exports for

some time and shippers on these systems could potentially incur higher tolls as a result. In that regard, the Board has no cogent evidence before it demonstrating that these potential costs resulting from unutilized capacity would be unmanageable by sophisticated industry parties. The Board also notes that Alberta oil sands are a substantial resource base capable of delivering long term, significant supply growth. Consequently, the Board is of the view that western Canada pipeline utilization overall is likely to increase over time.

The Board is of the view that the public interest will be best served in this case if competitive forces are permitted to function. In making its public interest determination, the Board must balance potential negative short term market adjustments with the longer term benefits that the Keystone XL Pipeline is expected to provide. On balance, from an economic perspective, the Board has concluded that the long term benefits of this Project outweigh the burdens identified in the short run because pipeline facilities are, by their very nature, long term infrastructure.

As for the other burdens identified above, the Board notes that energy infrastructure will usually have some impact on some individuals who use the land on or near where the facilities are located; the Board has weighed these impacts in this application. The Board notes that by using a RoW that is contiguous to existing rights of way Keystone will be able to minimize any further increase in overall landscape fragmentation. Also, the Board notes that the certificate conditions outlined in Appendix III, as well as the commitments made by Keystone XL, will serve to minimize the physical impacts of the Project to the extent possible.

After considering all of the evidence, and identifying and weighing the benefits and burdens of the Project, the Board has concluded that, on balance, the benefits of the Keystone XL Pipeline outweigh its burdens. As a result, the Board has come to the conclusion that the Keystone XL Pipeline is in the public interest and is and will be required for the present and future public convenience and necessity.

11.3 Acknowledgements

The Board would like to acknowledge the participation of all parties in the hearing associated with this application. The Board is committed to ensuring that all stakeholders are engaged effectively in the Board's public process. One aspect of this commitment is to have effective public participation in oral hearings before the Board.

In this proceeding, there was a high level of participation by individuals and groups who may not have previously appeared in front of a quasi-judicial tribunal. The time and effort that these parties spent to meaningfully participate in the public hearing was noted, and through their participation, the Board collected evidence that was highly relevant to its deliberations.

Appendix I

List of Issues

In Hearing Order OH-1-2009, the Board identified but did not limit itself to the following issues for discussion in the proceeding:

1. The need for the proposed facilities.
2. The economic feasibility of the proposed facilities.
3. The potential commercial impacts of the proposed project.
4. The potential environmental and socio-economic effects of the proposed facilities, including those to be considered under the *Canadian Environmental Assessment Act* (the Scope of which is set out in Appendix IV).
5. The appropriateness of the general route of the pipeline.
6. The method of toll and tariff regulation.
7. The suitability of the design of the proposed facilities.
8. The terms and conditions to be included in any approval the Board may issue.
9. Potential impacts of the project on Aboriginal interests.

Appendix II

Significant Rulings

19 June 2009	Board Ruling on Changes to the List of Issues and Scope of the Environmental Assessment
8 September 2009	Board Ruling on RATH & COMPANY Request to Cross-examine Government Participants and Individuals
8 September 2009	Board Ruling on Sierra Club Canada Letter dated 2 September 2009 Seeking Permission to Make an Opening Statement
9 September 2009	Board Ruling on RATH & COMPANY Letter dated 3 September 2009 Giving Notice of a Preliminary Matter
10 September 2009	Board Ruling on RATH & COMPANY Request to Cross-examine Government Departments
14 September 2009	Board Ruling on Requirements to File Contracts which were asked pursuant to National Energy Board Information Request No. 4 (IR No. 4)
18 September 2009	Board Ruling on Motion by the Sweetgrass First Nation (SFN) and Moosomin First Nation (MFN)

Board Decision on Changes to the List of Issues and Scope of the Environmental Assessment

List of Parties

Pursuant to Paragraph 11 of Hearing Order OH-1-2009 dated 12 May 2009, please find attached the List of Parties.

The application for Intervenor Status by Indigenous Environmental Network was rejected as it was filed by email (contrary to paragraph 15 of Hearing Order OH-1-2009) and no description of interest in the project was given.

Applications for Intervenor Status from the Sweetgrass First Nation, the Moosomin First Nation, Sierra Club and the Communications Energy and Paperworkers Union of Canada (CEP) were received after the deadline imposed by the Hearing Order. However, the National Energy Board has decided to grant these applications since doing so could not be expected to cause prejudice to other parties, including the applicant, at this point in the process.

List of Issues

Submissions on the List of Issues were received from Dale and Shirley McInnes (McInnes), the CEP, Sierra Club Canada (Sierra) and Transport Canada.

The Board has considered the concern raised in the submission by the McInnes with respect to the List of Issues, which concern is the design and location of Pump Stations. The Board is of the view that, to the extent relevant, that issue is already captured in Issues 4 and 7.

CEP requested that the issue “Is the establishment of this pipeline project consistent with the goals of i) ensuring Canadian energy security, ii) promoting sustainable economic development of Canada's energy economy, and iii) meeting Canada's obligations to reduce greenhouse gas” be added to the list.

The Board is of the view that, to the extent relevant, ensuring Canadian energy security is already captured in Issue 3 such that no addition to the List of Issues is required.

The Board is of the view that the second issue raised by CEP, promoting sustainable economic development of Canada's energy economy, would be captured by Issues 2 and 4 to the extent relevant. Further the Board is of the view that the List of Issues is broad enough to encompass matters pertaining to development of energy economy, to the extent that such matters are relevant to the determination the Board has been called upon to make. In any event, the Board is charged with considering the application as it has been framed by the applicant.

The Board is of the view that CEP's third issue, meeting Canada's obligations to reduce greenhouse gas emissions, to the extent that greenhouse gas emissions are relevant, are already captured by Issue 4. In determining the relevance of those effects, the Board will consider whether there is a sufficient connection between those effects and the determination it must make pursuant to section 52 of the National Energy Board Act.

Sierra proposed changing Issue 1 to read (their change in italics) “The need for and alternatives to the proposed facilities”. The Board notes that the Draft Scope of the Environment Assessment (EA) under 2.2 Factors to be Considered states that the EA will include a consideration of the factors listed in paragraphs 16(1) (a) to (d) of the Canadian Environmental Assessment Act (CEA Act). A decision was made by the Responsible Authorities in consultation with the Federal Authorities not to include a consideration of alternatives to the project. Further, Sierra’s discussion of alternatives appears to bear on broader policy questions of energy supply and development that are beyond the jurisdiction of the NEB and separate from the proposed Keystone XL pipeline project that is about energy transportation. The Board is therefore of the view that the List of Issues does not need to be changed in this regard.

Sierra also requested that Issue 4 be changed to read (their proposal in italics) “The potential cumulative environmental and socio-economic effects ...” etc. The Board notes that cumulative impacts are included under paragraph 16(1) (a) of the CEA Act and, to the extent that they are relevant, will be considered pursuant to Issue 4. In determining the relevance of upstream and downstream effects, the Board will consider whether there is a sufficient connection between those effects and the determination it must make pursuant to section 52 of the National Energy Board Act.

Transport Canada (TC) requested that the Board add the following to the list of issues:

“Aboriginal concerns with respect to the Project related to potential adverse impacts to potential or established Aboriginal or treaty rights”.

The Board considers the potential impacts of the Project on Aboriginal interests as part of its overall public interest consideration. However, after considering TC's request, the Board is of the view that adding the issue: "Potential impacts of the project on Aboriginal interests" to the List of Issues will make it clearer to the parties to the hearing and the Responsible Authorities that this issue will be specifically considered by the Board. Therefore, the Board has decided to amend the List of Issues (attached) to include the issue of "Potential impacts of the project on Aboriginal interests".

For further information in this regard, please see the NEB document entitled Consideration of Aboriginal Concerns in National Energy Board Decisions available on the NEB’s website.

Therefore the Board has determined that one addition to the List of Issues contained in the Hearing Order is required as noted above. The List of Issues is used to help focus the examination of a project. While the Board is not limited to those issues specifically delineated in that list, it will only consider matters that are in its view relevant to its assessment of the application.

Scope

Transport Canada in their letter of 9 June 2009 made comments as follows on the Scope of the EA:

As amendments have recently been made to the *Navigable Waters Protect Act*, TC requests that the draft scope of environmental assessment be amended by changing the sentence in section 2.1

Scope of the Assessment which currently reads “For TC, based on section 108 of the NEB Act and section 5(1) of the *Navigable Waters Protection Act*..” to “For TC, based on section 108 of the NEB Act and the *Navigable Water Protection Act*...

The Board has agreed to make this amendment to the scope of the EA and post the amendment on the CEA registry.

CEP Request for Funds

CEP has asked that:

For this hearing to represent a meaningful opportunity for informed public participation, the costs of intervention by CEP and certain other interveners must be financially assisted, and we encourage the Board to establish the appropriate modalities for doing so.

The Board notes that the NEB Act does not provide the Board with the authority to provide funding to parties in section 52 of the NEB Act proceedings.

Total E & P Canada (Total)

Total originally sent a letter dated 3 June 2009 which appeared to be asking the Board that it be considered as an intervenor. Subsequently Total supplied the Application for Intervenor form and also supplied a letter, both dated 9 June 2009. The letter requested that the Board strike the 3 June 2009 letter from the record. Since this request is made by the person who filed the letter, the Board agrees to the request.

Parties are to advise the Secretary of any change in their contact information. The List of Parties will be amended for any such changes. On receipt of this List of Parties, Intervenor is to serve all other Intervenor to the hearing, their written interventions pursuant to paragraph 11 of the Hearing Order. Government Participants are to serve their declarations on all parties pursuant to paragraph 11 of the hearing Order. Please note that the deadline for filing and serving materials is 12:00 noon, Calgary Time, unless otherwise noted in Hearing Order OH-1-2009.

Board Ruling on RATH & COMPANY Request to Cross-examine Government Participants and Individuals

The National Energy Board notes the RATH & COMPANY letter dated 3 September 2009 whereby counsel, on behalf of the Sweetgrass and Moosomin First Nations, has made a number of requests, including a request for cross-examination of GP.

As an Intervenor, you need not seek the permission of the Board to cross-examine the applicant or other Intervenor who have filed evidence; it is your right to do so. As such, you are free to ask questions of any of Keystone's three witness panels. It is up to Keystone to identify who will be the witnesses on its panels. Unless Ms. Swanson and Ms. Menzies agree to your request, you have not shown how their testimony would be material or relevant to the proceeding. Therefore, the Board is not compelling these two individuals to appear.

The Alberta Department of Energy and the Saskatchewan Ministry of Energy Resources are registered as Intervenor, not Government Participants, and therefore you would not require leave of the Board to cross-examine either party. However, neither party has filed evidence such that there is nothing for them to be cross-examined on. Again, unless Mr. Huk, Ms. Page and Mr. Rymes agree to your request, you have not shown how their testimony would be material or relevant to the proceeding. Therefore, the Board is not compelling these three individuals to appear.

With respect to the Major Projects Management Office (MPMO), Natural Resources Canada (NRCan), and Transport Canada (TC), these parties are GPs, and you do need the Board's permission to cross-examine them, but only NRCan and MPMO have filed evidence. The Board will therefore consider your request only as it pertains to MPMO and NRCan. The Hearing Order provides that these GPs have until 8 September 2009 to reply to your request and that you will then have until 11 September 2009 to reply. The Board will then decide and if granted, may impose restrictions on the scope of questions that may be allowed to ensure their relevancy to the decision the Board is asked to make in this case. The Board would note however, that if the request is granted, these GPs can choose which location (Calgary or Saskatoon) they want to appear to adopt their pre-filed evidence and allow for questions on it. They can also select who their witnesses will be to speak to their written evidence. Unless Mr. Skocylas, Mr. Clausen, Ms. LeMay and Ms. Foy agree to your request, not having shown how their individual testimony would be material or relevant to this proceeding, the Board is not compelling them to appear. As for TC, since TC did not file evidence, the Board notes that there is nothing for TC to be cross-examined on. Again, unless Ms. Mai-Linh Huynh agrees to your request, you have not shown how her testimony would be material or relevant to the proceeding. Therefore, the Board is not compelling this individual to appear.

Should MPMO and NRCAN accept, and if the Board grants the request, the Board would be appreciative if they could indicate where they intend to appear (Calgary or Saskatoon) in their response.

Oral Ruling from 21 September 2009, Hearing Transcript Volume 5, lines 5471-5477:

Ruling number one; the request of Rath & Company on behalf of the Sweetgrass and Moosomin First Nations to cross-examine government participants in OH-1-2009 proceeding.

On September 3rd, 2009, Rath & Company, on behalf of the Sweetgrass and Moosomin First Nations, sought leave of the Board to cross-examine the Major Projects Management Office and PMO and Natural Resources Canada, NRCan, who are government participants in this proceeding.

The Board notes that only Rath & Company has sought leave to cross-examine these government participants. The Board's decision on this request is as follows:

Given that Rath & Company has not entered an appearance for the Sweetgrass and Moosomin First Nations in the oral hearing such that the Board has no assurance that Rath & Company would appear when called upon to cross-examine the government participants, and the fact that Rath & Company did not avail itself of the opportunity to reply to the MPMO and NRCan

responses to the Rath & Company request to cross-examine them, while the MPMO and NRCan did provide a response to the request by the requested deadline of September 10th, 2009, Rath & Company did not offer a reply although it had until the 15th of September to provide one and Rath & Company did not seek subpoenas.

Since the Board was not clear if Rath & Company was seeking subpoenas, the Board issued a letter on the 10th of September, 2009 outlining what additional information would be required of Rath & Company for the purposes of requesting a subpoena. However, no such additional information was filed and no formal subpoena request was made.

The request is denied.

The MPMO and NRCan do not have to appear at the oral hearing for the purpose of being cross-examined by Rath & Company on their pre-filed evidence. However, MPMO and NRCan are reminded that they must still adopt their written evidence and the Board grants the MPMO and NRCan leave to adopt their evidence by written affidavit.

Board Decision on Sierra Club Canada Letter dated 2 September 2009 Seeking Permission To Make an Opening Statement

The National Energy Board notes the Sierra Club Canada (Sierra) letter dated 2 September 2009 whereby Sierra asks leave to make an opening statement regarding the possibility of amending the List of Issues.

The Board recalls that in Sierra's intervention, Sierra sought to have certain issues included on the List of Issues. By letter dated 2 September 2009, Sierra indicates that it would want to raise, as a preliminary matter, the request that the List of Issues be amended to include the same issues it had asked for in its intervention, namely:

1. The Need for and Alternatives To the proposed facilities (*italics used to show the proposed addition*); and
2. The potential cumulative environmental and socio-economic effects of the proposed facilities (*italics used to show the proposed addition*).

As the Board explained in its letter of 19 June 2009, Alternatives To the proposed facilities were not included in the scope of the Environmental Assessment (EA) to be conducted. Moreover, it was observed that the Alternatives To contemplated by Sierra appeared to be related to policy surrounding the development of alternatives to non renewable sources of energy, which in the Board's view is a matter outside its mandate. While Alternatives To are not included in the scope of the EA, it should be noted that a decision denying the application or "no project", which is always a possibility, is essentially an Alternative To. Sierra is also free to explore the issue of Need for the project.

As further explained in the Board's letter of 19 June 2009, cumulative effects are already included in the List of Issues and will be considered by the Board to the extent that they are relevant.

The Board would therefore not amend its List of Issues as Sierra would want it to. Therefore, to the extent that Sierra's preliminary matter has been substantively addressed by this response, the Board denies Sierra's request to make an opening statement regarding the amendment of the List of Issues, as detailed herein. If Sierra has other, different, preliminary matters to bring to the attention of the Board, Sierra can of course raise them with the Board.

Board Decision on RATH & COMPANY Letter dated 3 September 2009 Giving Notice of a Preliminary Matter

The National Energy Board is in receipt of the RATH & COMPANY (Rath and Co.) letter dated 3 September 2009 whereby counsel, on behalf of the Sweetgrass and Moosomin First Nations, informed the National Energy Board (Board or NEB) of its intention of raising a preliminary matter at the start of the hearing to the effect of seeking leave to adjourn the OH-1-2009 hearing pending the fulfillment of meaningful consultation between the Federal and Provincial Crown with the Sweetgrass and Moosomin First Nations.

The Board will treat this preliminary matter as a motion pursuant to section 35 of the National Energy Board Rules of Practice and Procedure, 1995 and the Board has decided that it will be addressed by way of a written process. This process is as follows:

1. Rath and Co. must file their submissions in chief with the Board in writing by noon (Calgary time) on 11 September, 2009 and serve a copy of it on all other parties. The submission should contain a concise statement of facts, the relief sought and the grounds for it, and as appropriate, the legal authorities on which the motion is grounded on.
2. Any party wishing to answer the motion must file a written answer with the Board by noon (Calgary time) on 15 September 2009 and serve a copy of it on all other parties (including Rath and Co.).
3. Rath and Co. may then reply and any reply must be filed with the Board in writing by 17:00 pm (Calgary time) on 16 September 2009 and a copy of it served on all other parties.
4. The Board will issue a decision on the motion shortly after. In any event, the Board will issue a decision on the motion prior to Keystone's witness panel 3 being called upon for cross-examination.

The Board reminds parties that "Parties" include the applicant, registered Intervenor and registered Government Participants (paragraph 11 of the OH-1-2009 Hearing Order).

The Board has considered whether this motion need be decided before the start of the hearing and has concluded that it does not. In particular, the Board is of the view that the prejudice that would accrue to parties who are prepared to proceed with the hearing outweighs the potential negative consequence, if any, to Rath and Co. and its clients, if the motion is successful. This is so, largely because the Board has decided to issue a decision on the motion prior to Keystone's panel 3 being called upon for cross-examination, which is the only Keystone panel that Rath and Co. has indicated it would have questions for. The Board notes that Rath and Co. has requested

to cross-examine other participants, but if these requests are granted, the cross-examination of these participants would all follow Keystone's presentation of its case and would be subsequent to Keystone's panel 3 being released.

In light of the fast approaching start of the hearing and the desire of the Board to issue a decision as soon as possible, it is crucial that the deadlines prescribed above be strictly adhered to.

Board Decision on Rath & Company's Request to Cross-examine Government Departments

The National Energy Board notes Rath & Company's letter dated 3 September 2009 whereby counsel, on behalf of the Sweetgrass and Moosomin First Nations, has made a number of cross-examination requests.

The Board has already responded to a part of these requests in its letter dated 8 September 2009.

This letter seeks to respond to the part of your letter that sought leave to cross-examine certain government departments namely:

- INAC (specifically Mimi Fortier)
- Saskatchewan Ministry of First Nations and Métis Relations (specifically Seonaid MacPherson)
- Government of Alberta, Aboriginal Relations (specifically Graham Statt and Cory Enns)

As these government departments are not parties in this proceeding there is no automatic right to compel attendance for purposes of cross-examination.

As you already know, in limited circumstances it is available to a party to request that the Board subpoena a particular witness or witnesses. The test the Board considers is whether entities were asked to produce particular witnesses and were refused as well as whether the evidence that could be provided by these witnesses is necessary or pertinent to the OH-1-2009 proceeding and that the information could not be obtained in any other matter or from any other source. The Board notes that compelling attendance for cross-examination is only granted in extenuating circumstances.

It is unclear to the Board whether a formal subpoena request has been made on behalf of your clients. If a subpoena request has been intended your request does not show how the testimony of witnesses on behalf of these government bodies would be necessary or pertinent to the OH-1-2009 proceeding or that the information that these individuals could provide could not be obtained in any other matter or from any other source. Your request also does not indicate that you have asked the parties to produce particular witnesses and were refused. If you have not yet but intend to proceed with a formal subpoena request, the Board requests that a Motion be made at the earliest possible date preferably in writing prior to the commencement of the Hearing on 15 September 2009.

This letter also seeks to respond to your remaining request seeking leave to cross-examine other parties and individuals in this proceeding:

- Major projects Management Office (MPMO), Natural Resources Canada (NRCan) (specifically Jim Clarke)
- Transport Canada (specifically Karmen Klarenbach)

With respect to MPMO and NRCan the Board previously outlined in its 8 September 2009 correspondence a process that is unfolding and will lead to a Board decision. If your request is granted, MPMO and NRCan will decide who they will present as their witnesses.

With respect to Transport Canada and Ms. Karmen Klarenbach, the Board reiterates its earlier advice that although Transport Canada is a party in these proceedings it has not filed evidence which precludes any automatic right of cross examination.

If it is your intention to seek a Board ordered subpoena with respect to specific witnesses from MPMO, NRCan or Transport Canada, the requirements by the Board are as outlined above.

Motion by the Sweetgrass First Nation (SFN) and Moosomin First Nation (MFN)

Rath & Company, counsel for SFN and MFN, advised the National Energy Board by letter dated 3 September 2009 that they intended to bring forward a preliminary matter at the commencement of the hearing on 15 September 2009 in which they would “seek leave to have the hearing adjourned pending the fulfillment of meaningful consultation between the federal and provincial Crown and our clients.”

On 9 September 2009 the Board issued a letter establishing a written process to deal with the Notice of Motion. In its letter the Board stated that it need not hear the motion prior to the start of the hearing. This was based on the determination that the prejudice that would accrue to parties prepared to proceed with the hearing outweighed any potential prejudice to SFN and MFN if the motion were successful. The Board indicated that it would render its decision on the motion prior to Keystone’s panel 3 being called upon for cross-examination since this was the only Keystone panel for which Rath & Company indicated it would have questions. The Board noted Rath & Company had requested to cross-examine other participants but determined that if these requests were granted, the cross-examination of these participants would all follow Keystone’s presentation of its case and would be subsequent to Keystone’s panel 3 being released.

Counsel for SFN and MFN was directed to file submissions with the Board on 11 September 2009. Parties wishing to respond to the motion were directed to file their written answers with the Board on 15 September 2009. Counsel for SFN and MFN had until the close of business on 16 September 2009 to file the reply, with the Board’s decision on the motion to be issued shortly thereafter, or in any event, prior to Keystone’s witness panel 3 being called upon for cross-examination.

On 11 September 2009, SFN and MFN filed a written Notice of Motion requesting an order from the Board that includes the following relief:

- a) a Declaration that the NEB does not have the jurisdiction to issue a section 52 Certificate until meaningful consultation has occurred among the federal and provincial Crowns and the SFN and MFN;
- b) an adjournment of NEB hearing OH-1-2009 pending the fulfillment of meaningful consultation among the federal and provincial Crown and the SFN and MFN; and
- c) a Declaration clarifying the role of the NEB as either an agent of the Crown, delegated with the duty to consult, or a tribunal tasked with assessing the adequacy of the Crown's duty to consult.

Submissions on the Motion

Duty to Consult and Procedural Fairness and Role of the NEB

SFN and MFN

SFN and MFN submit that the Crown owes them a duty to consult and has not fulfilled that duty by relying on the NEB process. SFN and MFN assert they have inherent Aboriginal and treaty rights in their traditional lands and treaty territories and that the Crown is aware of these rights. Even if the scope and content of the Crown's duty to consult is at the low end of the spectrum it still requires direct engagement among federal and provincial Crowns and SFN and MFN.

SFN and MFN submit that their Aboriginal and treaty rights will be adversely affected by the proposed pipeline and that the evidence of specific adverse effects should be discussed through meaningful consultation with the Crown, not through a public hearing process. The procedure followed by the NEB does not readily recognize or accommodate the distinguished rights of First Nations. The government may not simply adopt an unstructured discretionary administrative regime which risks infringing Aboriginal rights. The NEB process has given no priority to date to the rights of SFN and MFN; SFN and MFN's constitutionally protected rights and interests must be given greater priority than those of a mere applicant for a certificate of public convenience and necessity.

In addition, SFN and MFN submit that the NEB has failed to clarify its role as it relates to the duty to consult. Great legal uncertainty exists surrounding the NEB's jurisdiction and the adjournment is required in order for these matters to be clarified by the Federal Court Trial Division. If the NEB is discharging the duty to consult as a delegated authority it is required to uphold the honour of the Crown and act in the best interests of SFN and MFN. These requirements cannot be fulfilled as the principles of natural justice require that the NEB, as a quasi-judicial tribunal, must maintain impartiality. Alternatively, if the role of the NEB is to assess the adequacy of consultation then this is a preliminary issue that must be addressed prior to deciding whether to issue the section 52 certificate.

TransCanada Keystone (Keystone)

Keystone requests that the relief sought by the Applicants be denied. It argues that the NEB has limited jurisdiction to consider claims of Aboriginal rights and title, and no jurisdiction to

consider the adequacy of Crown consultation. Further, it submits that the MPMO has indicated the Crown's duty to consult has been or will be met in the circumstances, to the extent possible, through the oversight role of the MPMO in the proceeding.

Keystone further submits that the requested declaration clarifying the NEB's role is unnecessary since the NEB confirmed its role is that of a quasi-judicial body at arm's length from the Crown.

NEB decisions confirm the NEB's position that it does not have the jurisdiction to deal with claims of Aboriginal rights and title. The NEB may only determine, within the scope of its hearing process, whether there has been proper consultation and engagement of Aboriginal groups by the project proponent having regard to the NEB's filing requirements. The fact that the Crown may or may not have met its duty to consult is a factor that is independent of an application for a certificate of public convenience and necessity.

Keystone submits that the NEB process, as it relates to potentially affected Aboriginal groups, provides, among other things, notice, disclosure of information and the opportunity to raise concerns. Keystone asserts that to date, the Applicants have actively participated in the information response process, have filed detailed written evidence and will be entitled to present evidence and conduct cross-examination during the oral hearing.

Keystone XL Shippers Group (KSG)

KSG opposes the motion as well. KSG submits that the proposition that all Crown consultation must take place prior to the commencement of the oral hearing phase of the Board's proceeding is not supported in law. The opportunity to participate in and the evidentiary record arising from administrative tribunal proceedings are an entirely appropriate means that the Crown may use to honourably discharge the duties it has under section 35(1) of the *Constitution Act*. No facts are cited in the Motion that in any way support the view that the National Energy Board is or will be acting for the Crown during the proceeding for the purposes of fulfilling all of the Crown's duties under section 35(1) of the *Constitution Act*. It is entirely appropriate for the Crown to employ the processes of a regulatory proceeding as one means to fulfill the duties owed pursuant to section 35(1) of the *Constitution Act*. Before issuing the applied-for certificate of public convenience and necessity, the GIC will consider whether or not additional consultation and/or accommodation are still necessary.

Major Projects Management Office (MPMO)

The MPMO takes no position in respect of the disposition of the motion but submits that the Federal Court in *Brokenhead Ojibway Nation v. Canada*⁶ confirmed that the Board's processes may be sufficient to address Aboriginal concerns, subject to the Crown's overriding duty to consider the adequacy of consultation in any particular situation. MPMO argues that based on the current case law, the NEB has the authority and jurisdiction to render a decision prior to the completion of any potential duty to consult.

Reply Submissions of SFN and MFN

In reply to Keystone's answer, SFN and MFN submit the MPMO has unilaterally decided that the NEB is the appropriate forum to discharge its duty to consult. Moreover, the Crown has not attempted to consult outside the NEB process despite the Applicants' request.

SFN and MFN indicate that they expect to be consulted on the issues of:

- a) Treaty Land Entitlement (TLE);
- b) the impact of the Natural Resources Transfer Agreement of both Alberta and Saskatchewan; and
- c) the asserted right to be consulted with regard to the infringement of particular Treaty rights such as:
 - i) the right to hunt and trap and fish;
 - ii) the right to collect medicinal herbs;
 - iii) the right to traditional practices and to make use of sacred lands; and
 - iv) the right to continue the "usual vocations" of their forebears throughout their traditional and Treaty territories.

In specific reply to the case law relied upon by Keystone in its answer, SFN and MFN reiterated the ultimate responsibility for consultation rests with the Crown and that *Brokenhead Ojibway v. Canada*⁷ is an exception to the majority of the decisions on consultation and that as a matter of law, the NEB is not permitted to simply use the most recent court decision as a means of avoiding the overwhelming body of binding Canadian jurisprudence to justify ignoring their request for an adjournment prior to commencement of the hearing.

SFN and MFN argue they have participated in the NEB process to the extent necessary to ensure that the process is not thwarted, but this participation does not mean that the Crown has discharged its duty. The NEB is not a forum where the Crown's duty to consult may be fulfilled. The NEB process may provide a fair and reasonable opportunity for the public, but First Nations are not part of the public, but rather distinct and separate federally empowered entities whose rights and interests take priority over the public.

SFN and MFN submit that an assessment of whether adequate consultation has occurred prior to the GIC issuing the certificate of public convenience and necessity is too late in the process. The MPMO has full resources of federal departments available to identify all information necessary prior to the hearing in order that all possible mitigation measures are put before the NEB prior to a hearing so that the NEB can fairly assess consultation.

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Views of the Board

The primary assertion in the SFN and MFN motion is that the NEB hearing cannot proceed until a meaningful consultation process is completed between the Crown and the First Nations. Although it is not specified in the initial motion what the First Nations specifically expect to be included in a consultation process, in reply argument Mr. Rath submits that the consultations would deal with Treaty Land Entitlement; the impact of the Natural Resources Transfer Agreements of Alberta and Saskatchewan; and the asserted right to be consulted with regard to the infringement of particular treaty rights, such as the right to hunt, trap and fish, the right to collect medicinal herbs the right to traditional practices, and the right to continue the usual vocations throughout their traditional and treaty lands.

The NEB is a quasi-judicial decision-maker tasked with the responsibility to determine whether or not a proposed project is in the public interest. In weighing whether or not an application ought to be approved, the NEB has a broad mandate to consider all matters that appear to it to be relevant. As a federal tribunal with a broad mandate, the Board is of the view that its statutory discretion must be exercised in a manner consistent with the provisions of the Constitution, including section 35. The potential impact of a project on Aboriginal rights is a matter that is relevant to the Board's decision in virtually all cases where such impacts may occur. However, the fact that a project is to be constructed does not necessarily mean that it will have an actual impact on asserted or existing rights. That is an issue that has to be determined in each application, based on the specific facts. To ensure it has the information it needs, the Board requires proponents to provide evidence about Aboriginal groups that may be affected by the project, to enumerate the concerns that were raised and indicate how they were addressed. Aboriginal groups may or may not be satisfied with the proponent's process and so are encouraged to communicate their concerns to the Board so that those concerns may be considered in the decision-making process. The Board's process is designed to ensure that it has a full understanding of the concerns of Aboriginal peoples in respect of a project before it renders a decision.

The Board is governed by a variety of legislative and common law requirements and is a court of record that operates independently and at arm's length from the government of Canada. It is not the same thing as "the Crown" because it is an independent tribunal that is not subject to direction by the Crown. However, the Board was established by Parliament to independently carry out a number of roles that would otherwise fall to the Crown, including the regulatory review of pipeline applications. In respect of the Crown's Aboriginal consultation obligations, this legislative structure provides particular challenges not

faced by federal departments directed by Ministers of the Crown. In light of the specific legislative structure established in 1959 by Parliament under the NEB Act, the Crown has determined that it will rely on the NEB process as a means to meet some or all of its consultation obligations in respect of matters that fall within the mandate of the NEB. This does not mean that the Crown has delegated its duty to consult to the Board. The Board has jurisdiction to consider whether a project is in the public interest and as part of that consideration it weighs the costs and benefits of the project, including its potential effects on Aboriginal interests. Only the Board, and not some other Crown agency or department, has the ability to determine whether or not a project is in the public convenience and necessity. A Crown consultation process, such as that proposed by Mr. Rath in his motion, would ignore the fact that it is the NEB that decides whether to recommend to the GIC that the project should proceed and if so, under what conditions.

Because the Board is a quasi-judicial tribunal it cannot engage in off the record discussions with Aboriginals. Instead, it must rely on the open public hearing process to ensure it has the best possible evidence of the potential effects of a project on Aboriginal interests so that it may factor that evidence into its decision. By requiring proponents to engage in consultations directly with Aboriginal communities, ensuring that the hearing process is accessible to Aboriginals in as many ways as possible, and making certain that hearings are fair, open and transparent, the Board endeavours to get the best possible evidence of the potential impacts of the project on Aboriginals onto its record before making a decision. In order for Aboriginal groups to have their concerns considered by the Board it is incumbent on them to communicate those concerns to the Board, either through the proponent or directly through one of the various means of hearing participation available to them. Such communications should be specific to the potential effects of the proposed project rather than simply assertions that they have rights within the project area.

The appropriateness of the Board's process for the consideration of project impacts on Aboriginals was examined by the Federal Court in *Brokenhead Ojibway* wherein the Court stated:

Treaty One First Nations maintain that there must always be an overarching consultation regardless of the validity of the mitigation measures that emerge from a relevant regulatory review. This duty is said to exist notwithstanding the fact that Aboriginal communities have been given an unfettered opportunity to be heard. This assertion seems to me to represent an impoverished view of the consultation obligation because it would involve a repetitive and essentially pointless exercise. Except to the extent that Aboriginal concerns cannot be dealt with, the

appropriate place to deal with project-related matters is before the NEB and not in a collateral discussion with either the GIC or some arguably relevant ministry.⁸

Federal and provincial Crown agencies and departments may have certain permitting authority in respect of pipeline projects like Keystone; however, it is only the NEB that has the ability to decide whether or not to issue a certificate of public convenience and necessity, subject to GIC approval, and to impose conditions on the certificate. The NEB may deny an application or impose conditions on the certificate. Just as the Crown cannot direct the Board to do anything in particular due to the arm's length relationship, the Board does not have jurisdiction over the federal and provincial Crown or any particular Crown departments or agencies. It cannot direct them to consult, to consult differently or provide any particular accommodations. Crown agencies may need to carry out consultations with Aboriginals in respect of their own decision-making roles but it is not the responsibility of the Board to oversee such consultations.

Should SFN and MFN have concerns related to the project, the NEB is the appropriate forum to raise those concerns so that they may be considered by the Board before it reaches a decision on the application. However, as also noted by the Federal Court in *Brokenhead Ojibway*, the NEB regulatory process is not designed to address the larger issue of unresolved land claims or matters related to land entitlement. The Board notes that in his submission in response to the motion, Jim Clark, Director General, Operations for the Major Projects Management Office states:

The Federal Court has since confirmed that the Board's processes may be sufficient to address Aboriginal concerns, subject to the Crown's overriding duty to consider the adequacy of consultation in any particular situation. This is not a delegation of the Crown's duty to consult, but is one means by which the Crown may be satisfied Aboriginal concerns have been heard, and where appropriate, accommodated. Based on this current case law, the NEB has the authority and jurisdiction to render a decision prior to the completion of any potential duty to consult. As previously indicated in prior correspondence from the federal Crown to the SFN and MFN, the federal Crown is relying on the Board's process, to the extent possible, as the primary means of identifying, considering and addressing

8 *Brokenhead Ojibway*, *ibid* at para 35.

potential adverse project-related impacts on potential or established Aboriginal or treaty rights.⁹

The Board agrees with the MPMO's assertion that the NEB is not the overseer of the Crown's consultation efforts. Contrary to Mr. Rath's assertion, the MPMO submission is not stating that the NEB has delegated oversight of its process to the MPMO. The MPMO is simply stating that the Crown has opted to rely on the NEB process, to the extent possible, as a means of wholly or partially meeting its obligation to consult. Since the obligation to consult rests with the Crown as a whole, the Crown must determine the nature and extent of the obligation in any given situation. The Crown has indicated that it will, to the extent possible, rely on the Board's open public hearing process to determine, identify, consider and address potential project-related impacts. For its part, the Board has the obligation to consider the project in light of the potential impacts on existing or potential Aboriginal rights. The Board notes that the MPMO letter states that the Board may reach its decision prior to the "completion of any potential duty to consult". This suggests that the NEB decision is an important part of the consultation process in respect of pipeline applications, but it is possible that in certain circumstances the Crown may conclude that there is a need for additional consultation and accommodation in order for it to fulfill its obligation. The necessity for and timing of any such additional consultation is a matter for the Crown, not the NEB, to determine in each case.

Accordingly, it would make no sense to adjourn the present hearing since the NEB hearing process is the primary means of ensuring that Aboriginals' concerns about the project are identified, considered and addressed. If, after the conclusion of the hearing the Crown is of the view that additional consultation is required, it will no doubt take appropriate steps at that time. The Board therefore denies the request to adjourn the hearing.

For the foregoing reasons, the Board also denies the motion to issue a declaration that it does not have jurisdiction to issue a section 52 certificate. Finally, as the role of the Board in respect of Crown consultation is outlined above, the Board denies the request to issue a declaration clarifying its role in the terms specified in the SFN and MFN motion.

9 Filing A1L3G3, Exhibit D-3-8, 15 September 2009 Letter of Response to Motion from Natural Resources Canada, signed by Jim Clarke, Director General, Operations, MPMO.

Reasonable Apprehension of Bias

SFN and MFN

SFN and MFN allege that the Board's directions regarding the process for the hearing of the First Nations' preliminary matter as a motion in its letter dated 9 September 2009, create a reasonable apprehension of bias. The test, they assert, as defined by the case law is "what would an informed person, viewing the matter realistically and practically – and having thought the matter through – conclude? Would he think that it is more likely that not that [the decision maker], whether consciously or unconsciously, would not decide fairly?" SFN and MFN argue that by not deciding the preliminary matter before the hearing started, the Board has essentially ruled on the issue of adjournment prior to hearing the motion.

Keystone

Keystone expresses the view that the test for apprehension of bias was not met in the circumstances and that an argument to that effect is wholly without merit. Instead, it is of the opinion that the process adopted by the NEB to consider the motion would allow it to reach a fair decision in a timely manner, given the Board's undertaking to issue a decision prior to the commencement of cross-examination by counsel for the SFN and MFN.

KSG

KSG is also of the view that the circumstances do not give rise to a reasonable apprehension of bias. It argues that the Board's 9 September 2009 letter addressed the question of "when" the Board would decide the motion, not "how". In their view, the Board's balancing of the interests of all hearing participants in light of a late-breaking adjournment request did not constitute evidence that the SFN and MFN would be unable to obtain a fair hearing.

Views of the Board

Counsel for SFN and MFN first made the Board aware by letter dated 3 September 2009 that they intended to bring forward a preliminary matter at the commencement of the hearing on 15 September 2009. The letter stated: "...we will seek leave to have the hearing adjourned pending the fulfillment of meaningful consultation between the federal and provincial Crown and our clients."

On 9 September 2009 the Board issued a letter directing that the preliminary matter be brought by way of written motion. After providing a timetable, it indicated that:

The Board has considered whether this motion need be decided before the start of the hearing and has concluded that it does not. In particular, the Board is of the view that the prejudice that would accrue to parties who are prepared to proceed with the hearing outweighs the potential

negative consequences, if any, to Rath & Company and its clients, if the motion is successful. This is so, largely because the Board has decided to issue a decision on the motion prior to Keystone's panel 3 being called upon for cross-examination, which is the only Keystone panel that Rath & Company has indicated that it would have questions for. The Board notes that Rath & Company has requested to cross-examine other participants, but if these requests are granted, the cross-examination of those participants would all follow Keystone's presentation of its case and would be subsequent to Keystone's panel 3 being released.

The Board does not agree that its decision to decide the SFN and MFN motion after the commencement of the hearing demonstrates bias on its part. As the Board stated in its letter setting out the process for hearing the motion, when presented with an adjournment request less than 7 business days before the hearing, it sought to balance inconvenience that an adjournment would cause to parties ready to proceed to hearing against prejudice that might accrue to SFN and MFN if the hearing commenced as scheduled. The Board concluded that the hearing could commence but undertook to issue its ruling on the motion prior to the point that SFN and MFN indicated they would begin cross-examination of other parties. If, after hearing the motion, the Board granted the adjournment, it is difficult to see how SFN and MFN would be prejudiced by the evidence that had been heard to that point. There would have been no decision reached by the Board and the evidence to that point was not something that SFN and MFN indicated they were interested in. By the same token, if the motion were successful, the hearing could at that point be adjourned with no prejudice to SFN and MFN with respect to the matters of interest to them. Finally, given the complexity of the issues expected to be raised in the motion the Board determined that it would prefer to have the motion carried out in writing rather than orally at the beginning of the oral portion of the proceeding.

In these circumstances, the Board fails to see how a reasonable person might conclude that refusing to adjourn the hearing before its commencement would lead to the SFN and MFN being unable to obtain a fair hearing.

SFN and MFN Chiefs and Councils are Federal Boards

SFN and MFN

SFN and MFN submit that their Chiefs and Councils are "federal tribunals" within the meaning of section 2 and section 18.1 of the *Federal Court Act*. Unlike the NEB, the Chiefs and Councils are experts in matters pertaining to the determination of infringements of Aboriginal and Treaty

rights, therefore, the NEB should adjourn its process to allow the Federal Court Trial Division the ability to resolve the SFN and MFN's concerns.

Keystone

Keystone submits that there is no credible basis on which an argument may be made that the NEB must suspend its adjudication of the Proceeding until the Chiefs and Council of the Applicants have determined the potential impacts of the Project. The NEB is clearly acting within its express legislative mandate and any argument to the contrary is unfounded.

KSG

KSG submits that the Motion fails to explain why matters now before the National Energy Board cannot proceed concurrent with or in advance of the processes which the Chiefs and Councils are intending to pursue. Absent such information, even if the Chiefs and Councils ought to be considered as a federal board, the National Energy Board cannot extend comity to them and grant an adjournment.

Reply of SFN and MFN

SFN and MFN submit that the authority for the proposition that Chiefs and Councils are federal tribunals is set out in section 81.1 of the *Indian Act* and section 18.1 of the *Federal Court Act* and has over a hundred years of accepted practice, legal procedure and legal precedent. The Notice of Motion did not suggest the NEB is required to suspend its adjudication of the proceeding until the Chiefs and Council of the Applicants have determined the potential impacts of the project, but rather that this should be done out of respect for other practicing tribunals.

Views of the Board

The Board agrees with Keystone's submission that the authorities cited by Mr. Rath do not support the notion that Chiefs and Councils have overlapping jurisdiction with the NEB. The Board notes that SFN and MFN have had full opportunity to submit evidence in this proceeding, which could have included the opinions and views of their Chiefs and Councils. The Board is therefore not persuaded by Mr. Rath's argument that this assertion provides the basis for an adjournment.

The motion is dismissed.

Board Ruling on Requirements to File Contracts which were asked pursuant to National Energy Board Information Request No. 4 (IR No. 4)

The National Energy Board has reviewed the response to NEB IR No. 5 and believes that it still requires the contracts it asked for in NEB IR. No. 4 to fully assess the applied-for-project and assist the Board in the public interest determination it is required to make pursuant to section 52 of the National Energy Board Act (the Act).

The Board grants confidentiality protection to these contracts as detailed in the attached confidentiality Order.

The Board notes that contracts 1, 5, 7 and 11 which are the Base Keystone and Cushing proforma Transportation Service Agreements (TSAs) and Tariffs for Canadian transportation are available on the public domain, however, the Board requires that these contracts be filed publicly on the OH-1-2009 record.

The Board grants the Alberta Department of Energy (ADOE) request seeking access to the six proforma TSAs and Tariffs for U.S. transportation for the KXL, Base Keystone and Cushing segments. The ADOE must file assurances of non-disclosure and comply with the terms of the confidentiality Order.

The Board directs that the requested contracts identified in this letter and in the attached Order MO-13-2009, be filed no later than 1:00 pm, Tuesday 15 September 2009.

Appendix III

Certificate Conditions

General Conditions

1. Keystone shall comply with all of the conditions contained in this Certificate unless the Board otherwise directs.
2. Keystone shall cause the approved Project to be designed, located, constructed, installed, and operated in accordance with the specifications, standards and other information referred to in its application or as otherwise agreed to during questioning or in its related submissions.
3. Keystone shall implement or cause to be implemented all of the policies, practices, programs, mitigation measures, recommendations and procedures for the protection of the environment included in or referred to in its application or as otherwise agreed to during questioning in the OH-1-2009 proceeding or in its related submissions.

Prior to Construction Activities (including clearing or ground-breaking activities)

4. Environmental Tracking Commitments Table

Keystone shall maintain at its construction office(s):

- a) an updated Environmental Commitments Tracking Table listing all regulatory commitments, including but not be limited to all commitments resulting from:
 - i) the NEB application and subsequent filings;
 - ii) undertakings made during the OH-1-2009 proceedings; and
 - iii) conditions from permits, authorizations and approvals.

Keystone shall also file the updated Environmental Commitments Tracking Table, with the Board 15 days prior to construction.

- b) copies of any permits, approvals or authorizations for the applied-for facilities issued by federal, provincial or other permitting agencies, which include environmental conditions or site-specific mitigative or monitoring measures; and
- c) any subsequent variances to any permits, approvals or authorizations.

5. Horizontal Directional Drill

Keystone shall file with the Board either:

- a) upon successful completion of the Horizontal Directionally Drilled (HDD's) or HD bore watercourse crossing for the Red Deer, South Saskatchewan, and Frenchman Rivers and Piapot Creek, confirmation of their completion; or
- b) in the event of any changes to the proposed HDD/HD bore watercourse crossing method for the Red Deer, South Saskatchewan or Frenchman Rivers or Piapot Creek, at least 10 days prior to crossing,
 - i) notification in writing of such change to the proposed crossing method and the reason for that change;
 - ii) evidence of consultation with appropriate provincial and federal regulatory authorities that have an interest in the watercourse crossings and provide copies of all relevant correspondence from them; and
 - iii) file for approval, at least 10 days prior to implementing the revised watercourse crossing method, a description of amended reclamation and re-vegetation measures, and fish and fish habitat monitoring for the affected watercourse crossings.

6. Survey methodologies for rare and SARA listed Species

Keystone shall file with the Board for approval, at least 60 days prior to starting each pre-construction survey:

- a) a methodology for conducting the surveys for rare and SARA listed plants and rare ecological communities;
- b) a methodology for conducting the confirmatory surveys for faunal species of management concern (including Ord's kangaroo rat, swift fox, ferruginous hawk, burrowing owl, black tailed prairie dog, sharp tailed grouse, loggerhead shrike and SARA listed amphibians); and
- c) evidence of consultation on the above methodologies with appropriate provincial and federal regulatory authorities and provide copies of correspondence from these regulatory authorities regarding the methodology.

7. SARA listed Faunal Species

Keystone shall file with the Board for approval, at least 60 days prior to construction:

- a) the results of the confirmatory surveys for species of management concern, including Ord's kangaroo rat, swift fox, ferruginous hawk, burrowing owl, black

tailed prairie dog, sharp tailed grouse, loggerhead shrike and SARA listed amphibians;

- b) a detailed mitigation plan for each of the above species affected by construction and operation activities;
- c) evidence of consultation with appropriate provincial and federal regulatory authorities and copies of correspondence from these regulatory authorities regarding satisfaction with the proposed mitigation; and
- d) confirm that the EPP has been updated to include the mitigation measures.

Construction shall not commence until Keystone has received approval of its SARA survey results and mitigation plans from the Board.

8. SARA listed Plant Species

Keystone shall file with the Board for approval, at least 60 days prior to construction:

- a) the results of the surveys for rare and SARA listed plants and rare ecological communities;
- b) a detailed mitigation plan for each of these species affected by construction activity, including but not limited to:
 - i) measures to be implemented during construction;
 - ii) measures and a monitoring survey protocol for post-construction reclamation; and
 - iii) a survey methodology for determining the extent of non-avoidable impacts on rare and SARA listed plants and rare ecological communities.
- c) evidence of consultation with appropriate provincial and federal regulatory authorities and copies of correspondence from these regulatory authorities regarding satisfaction with the proposed mitigation plan; and
- d) confirmation that the EPP has been updated to include the relevant mitigation measures.

Construction shall not commence until Keystone has received approval of its SARA survey results and mitigation plans from the Board.

9. Protection of Rare and SARA listed Plants and Rare Ecological Communities

Keystone shall file with the Board for approval, at least 120 days prior to leave to open, a plan for the provision and implementation of offset measures for all non-avoidable impacts on rare and SARA listed plants and rare ecological communities. The plan shall include but not be

limited to, the results from surveys for determining the extent of non-avoidable impacts, and evidence of consultations with appropriate government agencies and relevant stakeholders.

10. Comprehensive Wetland Surveys

Keystone shall file with the Board for approval, at least 60 days prior to construction, a comprehensive wetland survey. The survey shall include:

- a) the methodology for conducting the survey;
- b) the results of the survey;
- c) the criteria, and the rationale for the criteria, for the crossing methods and mitigation measures to be employed;
- d) evidence demonstrating consultation with appropriate provincial and federal regulatory authorities; and
- e) confirmation that the EPP has been updated to include the mitigation measures.

11. Additional environmental surveys

Keystone shall file with the Board for approval, at least 60 days prior to construction, additional surveys and assessments committed to in its 28 August 2009 Supplemental evidence necessary to address facility location and route changes extending beyond the 1 km wide study corridor assessed for the ESA.

The surveys and assessments shall include:

- a) the methodology for conducting the surveys (for those methodologies not otherwise conditioned);
- b) the results of the surveys;
- c) mitigation measures;
- d) evidence of consultation with appropriate provincial and federal regulatory authorities; and
- e) confirmation that the EPP has been updated to include the mitigation measures.

12. Pre-construction Weed Surveys

Keystone shall file with the Board for approval, at least 60 days prior to construction:

- a) the results of the pre-construction weed surveys to identify the presence and density of weeds in areas that will be affected by the construction of the Keystone XL pipeline;

- b) the methodology for conducting the surveys;
- c) evidence demonstrating consultation with appropriate provincial and federal regulatory agencies regarding the methodology and results; and
- d) confirmation that the EPP has been updated to include the mitigation measures.

13. Environmental Protection Plan

Keystone shall file with the Board for approval

- a) at least 90 days prior to the commencement of construction, a draft Project-specific Environmental Protection Plan (EPP). The EPP shall be a comprehensive compilation of all environmental protection procedures, mitigation measures, and monitoring commitments, as set out in Keystone's application for the Project, subsequent filings or as otherwise agreed to during questioning in the OH-1-2009 proceeding or in its related submissions. The EPP shall also include measures arising from additional studies conducted in 2009 and 2010 with updated Environmental Alignment Sheets. The EPP, as appropriate, shall include but not be limited to:
 - i) seed mixes and criteria for their use in the reclamation of the project and confirmation that appropriate provincial and federal regulatory agencies have commented on the proposed seed mixes, and
 - ii) evidence that landowners have been consulted on seed mixes to be applied to their directly affected land;
 - iii) an updated Weed Management Plan, including evidence demonstrating consultation with appropriate provincial and federal regulatory agencies, and directly affected landowners in developing the plan.
 - iv) a Great Sand Hills Reclamation plan for pipeline construction, developed in consultation with appropriate provincial and federal regulatory agencies;
 - v) a Traffic Management Plan to minimize total activity including, where relevant, construction within 500 m buffer zone of Prairie dog colonies; and
 - vi) special trenchwater management procedures in areas where there is a likelihood of encountering shallow brine-impacted groundwater during dewatering for pipeline construction.
- b) at least 45 days prior to the commencement of construction, a final EPP for approval, which shall include but not be limited to, updated mitigations and any other updates resulting from survey results, and any changes resulting from consultation on the previous draft EPP. Keystone shall also provide evidence of consultations and describe how any outstanding concerns will be addressed.

Construction shall not commence until Keystone has received approval of its EPP.

14. Heritage Resources – clearances and mitigation

Keystone shall file with the Board, at least 30 days prior to commencement of construction:

- a) a copy of the letter of clearance received under the *Alberta Historical Resources Act*;
- b) all comments and recommendations received from the provincial authorities in Saskatchewan and Alberta regarding the Heritage Resources Impact Assessments; and
- c) for approval, the mitigation measures that Keystone proposes to address the comments and recommendations in b).

15. Greenhouse Gas Emissions

Keystone shall file with the Board, for approval, at least 60 days prior to construction, a quantitative assessment of greenhouse gas (GHG) emissions expected to directly result from the Keystone XL pipeline and its associated facilities, as applied for. The study shall cover both construction and operation of the pipeline and its associated facilities. In addition to the results of the assessment, the filing shall describe the calculation methodology used, identify assumptions and inputs, and describe what variables may affect the results. The filing should also describe mitigation measures to reduce emissions.

16. Aboriginal Consultation

Keystone shall continue to consult with Aboriginal groups who have expressed interest in the Project regarding the details of construction phase of the project as well as its plan for monitoring procedures for the protection of Aboriginal heritage and traditional resources.

Keystone shall file with the Board, at least 60 days prior to the commencement of construction, an update on its consultations with Aboriginal people, including:

- a) concerns raised by Aboriginal people;
- b) a summary indicating how Keystone will address any concerns raised during these consultations; and
- c) its plan describing monitoring procedures for the protection of Aboriginal heritage and traditional resources during construction.

During Construction Activities

17. Migratory Birds

In the event of construction or clearing activities within restricted activity periods for migratory birds, Keystone shall retain a qualified avian biologist to carry out a pre-construction survey to identify any migratory birds and active nests in areas immediately surrounding the site

(30 metres for migratory birds and 100 metres for raptors) and shall file with the Board at least 30 days prior to those construction or clearing activities:

- a) the results of the survey;
- b) mitigation, including monitoring, developed in consultation with Environment Canada and Canadian Wildlife Service, to protect any identified migratory birds or their nests; and
- c) mitigation, including monitoring, developed in consultation with Environment Canada and Canadian Wildlife Service to protect any identified *Species at Risk Act* birds or their nests; and
- d) evidence to confirm that the appropriate provincial and federal regulatory authorities have been consulted, on the proposed methodology for the survey, the results from the survey and the mitigation and monitoring to be used, and a description of any outstanding concerns they may have.

If no construction or clearing activities occur within restricted activity periods for birds, Keystone shall notify the Board of this within 15 days following the last restricted activity period to occur during construction.

18. Ongoing Landowner Consultations

For the duration of construction and for a period of at least five years following leave to open, Keystone shall maintain and upon request file with the Board a construction consultation and complaint monitoring report that provides a Landowner Consultation Tracking Table that will include, but not be limited to:

- a) a description of any landowner consultations undertaken including the method of consultation, dates, and a summary of any comments or concerns raised by landowners or potentially affected persons or groups;
- b) a summary of actions undertaken by Keystone to address each of the comments or concerns raised by potentially affected persons or groups; and
- c) a description of how Keystone intends to measure whether and to what extent it is achieving its stated objectives regarding consultation.

Post-Construction Activities

19. Post-Construction Environmental Monitoring

Keystone shall file with the Board, 6 months after the commencement of operation, and on or before the 31st January for each of the subsequent 5 years, a post-construction environmental monitoring report that:

- a) describes the methodology used for monitoring, the criteria established for evaluating success and the results found;
- b) assesses the effectiveness of the mitigation measures applied during construction against the criteria for success;
- c) identifies deviations from plans and alternate mitigation applied as approved by the Board;
- d) identifies locations on a map or diagram where corrective action was taken during construction and the current status of corrective actions; and
- e) provides proposed measures and the schedule Keystone shall implement to address any unresolved concerns.

Prior to Operation

20. Pipe Quality

Thirty days prior to requesting the leave to open provide a list of pipe that was received from the pipe supplier(s), identifying each manufacturer, identifying a traceable number with which each received pipe can be identified, an indication of whether the pipe was acceptable as received or not, and a list of all defects (as defined by CSA Z245.1), means of fixing defects, and source of defect (manufacturing, handling, installation).

Post-Construction and During Operations

21. Condition Compliance by a Company Officer

Within 30 days of the date that the approved Project is placed in service, Keystone shall file with the Board a confirmation, by an officer of the company, that the approved project was completed and constructed in compliance with all applicable conditions in this Certificate. If compliance with any of these conditions cannot be confirmed, the officer of the company shall file with the Board details as to why compliance cannot be confirmed. The filing required by this condition shall include a statement confirming that the signatory to the filing is an officer of the company.

22. Certificate Expiration

Unless the Board otherwise directs prior to 11 March 2011, this Certificate shall expire on 11 March 2011 unless construction in respect of the Project has commenced by that date.

Appendix IV

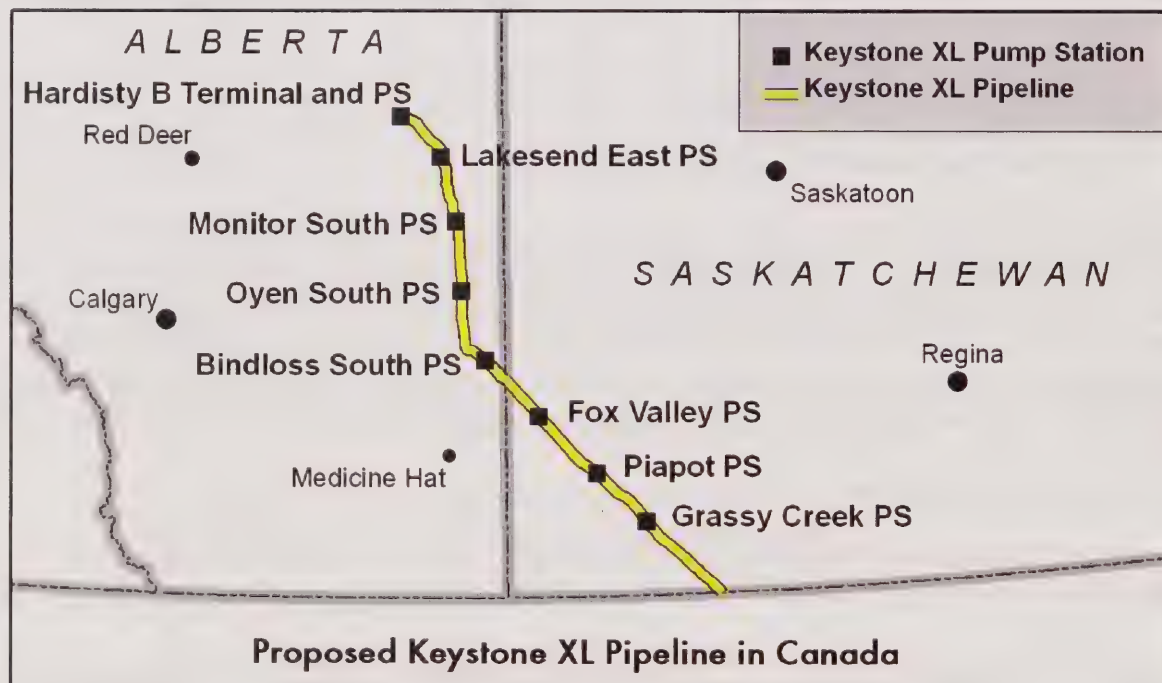
Environmental Screening Report

ENVIRONMENTAL SCREENING REPORT

Pursuant to the *Canadian Environmental Assessment Act (CEA Act)*

Keystone XL Pipeline Project

Applicant Name:	TransCanada Keystone Pipeline GP Ltd.		
Application Date:	27 February 2009	CEA Act Registration Date:	14 October 2008
National Energy Board (NEB or Board) File Number:	OF-Fac-Oil-T241-2009-01 01	CEA Registry Number:	08-01-43013
CEA Act Law List Trigger:	<i>National Energy Board Act, section 52</i>	CEA Act Determination Date:	4 March 2010



SCREENING SUMMARY

This report represents an Environmental Screening Report (ESR) for the Canadian portion of the TransCanada Keystone Pipeline GP Ltd.'s (Keystone) proposed Keystone XL Pipeline project (the Project). The Project would extend from Hardisty, Alberta (AB) to the international border between Canada and the U.S. near Monchy, Saskatchewan (SK). The Project would involve the construction and operation of approximately 529 km of new oil pipeline and related facilities, including new storage tank terminals at Hardisty, AB, a new initiating pump station and seven intermediate pump stations along the proposed pipeline in AB and SK. Approximately 69 km of new non-contiguous right-of-way (RoW) would be required.

The National Energy Board (Board or NEB) is the Federal Environment Assessment Coordinator for the applied-for Project. Transport Canada, Canada Transportation Agency and Agriculture and Agri-Food Canada have declared themselves as Responsible Authorities (RAs) and Environment Canada, Department of Fisheries and Oceans, Natural Resources Canada, Indian and Northern Affairs Canada and Health Canada declared themselves as Federal Authorities (FAs) in possession of specialist advice. Alberta Environment and Saskatchewan Environment also expressed an interest in monitoring and participating in the environmental assessment process.

The NEB has considered information provided by the Applicant, government departments, and the public during its review of the Project. The analysis in this ESR is based on the evidence placed on the record for the public hearing process held with respect to the Project, the full documentation of which can be found at the following internet hyperlink: <https://www.neb-one.gc.ca/11-eng/livelink.exe?func=11&objId=550305&objAction=browse&sort=-name>

This report has been prepared to meet the requirements of the *Canadian Environmental Assessment Act* (CEA Act). A draft ESR was made available to the public for comment, prior to the NEB determination. The final ESR includes comments received from RAs and FAs and Keystone.

As detailed in the ESR, a number of key environmental issues were identified including, *Species at Risk Act* listed species, rare plants and rare communities, fish and fish habitat, air quality, and wetlands. Pursuant to the CEA Act the Board has determined that, taking into account the implementation of Keystone's proposed mitigation measures, compliance with the Board's regulatory requirements and the recommended conditions attached to the Board's ESR, the Project is not likely to cause significant adverse environmental effects.

TABLE OF CONTENTS

1	INTRODUCTION.....	116
1.1	Project Overview	116
1.2	Rationale for the Project	116
1.3	Baseline Information and Sources	116
2	ENVIRONMENTAL ASSESSMENT (EA) PROCESS	117
2.1	Government Participation in the Pre-Application EA Coordination Process	117
2.2	Opportunities for Public Input into the EA.....	118
3	SCOPE OF THE EA.....	118
4	DESCRIPTION OF THE PROJECT	118
5	DESCRIPTION OF THE ENVIRONMENT	119
6	COMMENTS FROM THE PUBLIC	123
6.1	CEAA-Related Project Issues Raised in Comments Received by the NEB	123
6.2	Project-Related Issues Raised through Consultation Conducted by the Applicant.....	124
6.3	Comments received by Aboriginal Groups.....	125
7	METHODOLOGY OF THE NEB'S ENVIRONMENTAL ASSESSMENT.....	125
8	ENVIRONMENTAL EFFECTS ANALYSIS.....	127
8.1	Routing of the Pipeline	127
8.2	Project - Environment Interactions	128
8.3	Standard Mitigation	132
8.4	Detailed Analysis of Potential Adverse Environmental Effects	132
8.4.1	Wildlife, Wildlife Habitat and Faunal Species at Risk	133
8.4.2	Rare Plants, Rare Ecological Communities, SARA Plant Species and Native Vegetation	134
8.4.3	Fish and Fish Habitat	136
8.4.4	Salt Affected Groundwater	137
8.4.5	Wetlands	138
8.4.6	Atmospheric Environment - Operations Related Air Emissions from Hardisty B Tank Terminal	139
8.4.7	Great Sand Hills Reclamation Plan.....	139
8.4.8	Increased Noise Levels During Operations	140
8.5	Cumulative Effects Assessment.....	141
8.6	Follow-up Program	143
8.7	Recommendations.....	143

9	THE NEB'S CONCLUSION	150
10	NEB CONTACT	150
	APPENDIX 1: DRAFT SCOPE OF ENVIRONMENTAL ASSESSMENT	151
	APPENDIX 2: COMMENTS ON THE DRAFT ESR.....	155

LIST OF TABLES

Table 1: Role of Federal Government Agencies in the CEA Act Process.....	117
Table 2: Details of the Project	118
Table 3: Submissions to the NEB	123
Table 4: Evaluation of Significance Criteria	126

LIST OF ABBREVIATIONS

AAFC	Agriculture and Agri-Food Canada
AB	Alberta
AENV	Alberta Environment
Board or NEB	National Energy Board
CEA Act	<i>Canadian Environmental Assessment Act</i>
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
DFO	Department of Fisheries and Oceans
EA	Environmental Assessment
EC	Environment Canada
EPP	Environmental Protection Plan
ESA	Keystone's Environmental and Socio-Economic Assessment
ESR	Environmental Screening Report pursuant to the CEA Act
FAs	Federal Authorities as defined in subsection 2(1) of the CEA Act
FCN	Federal Coordination Notification
GSH	Great Sand Hills
HC	Health Canada
HDD	Horizontal Directional Drilling
HD bore	Horizontal Directional Bore
H ₂ S	Hydrogen Sulphide
Keystone	TransCanada Keystone Pipeline GP Ltd.
km	kilometre
LSA	Local Study Area
m	metre
m ³	cubic metre(s)
NEB Act	<i>National Energy Board Act</i>
NWPA	<i>Navigable Waters Protection Act</i>
PDA	Project Development Area

PFRA	Prairie Farm Rehabilitation Administration
RAs	Responsible Authorities as defined in subsection 2(1) of the CEA Act
RoW	Right of Way
RSA	Regional Study Area
SARA	<i>Species At Risk Act</i>
SCC	Sierra Club of Canada
SCADA	Supervisory Control and Data Acquisition
SE	Saskatchewan Environment
SK	Saskatchewan
TC	Transport Canada
VEC	Valued Ecosystem Component

1 INTRODUCTION

1.1 Project Overview

TransCanada Keystone Pipeline GP Ltd. (Keystone) has applied to the National Energy Board (NEB or Board) to construct and operate an approximately 529 kilometre (km) oil pipeline from a supply hub at Hardisty, Alberta (AB) to the Canada/U.S. border at Monchy, Saskatchewan (SK). This Keystone XL project (the Project) will also include a new initiating pump station at Hardisty, seven mainline pump stations, and a pipeline terminal at Hardisty, consisting of three operational storage tanks, each with a design capacity of 55,600 m³ (350,000 bbl) plus other related works and activities. Approximately 69 km of new pipeline right of way (RoW), not contiguous with or alongside existing RoW, would be required. The Project would have an initial capacity of approximately 111,300 m³/d (700,000 bbl/d) of commodity and is designed to be expandable to 143,100 m³/d (900,000 bbl/d).

Section 4.0 provides a more detailed description of the work associated with the Project.

1.2 Rationale for the Project

The purpose of the Project is to transport oil products from an oil supply hub at Hardisty, AB to markets in the Gulf Coast area of the United States. The Hardisty hub is supplied from the Western Canada Sedimentary Basin, which is forecast to grow by at least 247,000m³/d (1.6 million bbl/d) from 2007 to 2017. In support of the Project, Keystone has secured long-term transportation contracts totaling 60,400m³(380,000bbl/d) with an average duration of 17 years.

1.3 Baseline Information and Sources

The analysis for this Environmental Screening Report (ESR) is based on information from the following sources:

- Keystone's Project application;
- Keystone's Environmental and Socio-Economic Assessment (ESA);
- Supplementary filings to the Project application;
- Responses to information requests from the NEB and other parties;
- Written evidence from the public and interested parties including letters of comment;
- Evidence submitted at the oral public hearing; and
- Comments received from government agencies and Keystone on the draft ESR.

Filed information pertaining to the Project application can be found within "regulatory Documents" on the NEB's website (www.neb-one.gc.ca) at <https://www.neb-one.gc.ca/l1-eng/livmlink.exe?func=l1&objId=550305&objAction=browse&sort=-name>. For more details on how to obtain documents, please contact the Secretary of the NEB at the address specified in section 10 of the Report.

2 ENVIRONMENTAL ASSESSMENT (EA) PROCESS

The application for the Project was filed pursuant to section 52 of the *National Energy Board Act* (NEB Act), which is included in the *Canadian Environmental Assessment* (CEA) Act *Law List Regulations* thereby requiring an EA under the CEA Act. Since the Project would not require more than 75 km of new RoW, as defined in the CEA Act *Comprehensive Study List Regulations*, the project is subject to a screening level of EA under the CEA Act.

2.1 Government Participation in the Pre-Application EA Coordination Process

Prior to Keystone's 27 February 2009 Application to the NEB, on 18 July 2008 Keystone filed a Project Description to initiate federal coordination for the EA for the Project. As the Federal Environmental Assessment Coordinator and pursuant to the CEA Act *Regulations Respecting the Coordination by Federal Authorities of Environmental Assessment Procedures and Requirements* (Federal Coordination Regulations), on 31 July 2008 the NEB sent a federal coordination notification letter (FCN letter) to federal departments with a potential interest in the Project and its EA. The Table below identifies the government agencies that were notified and their roles with respect to the EA for the Project. Refer to Section 6.0 for a summary of public and government comments.

Table 1: Role of Federal Government Agencies in the CEA Act Process

Responsible Authorities (RAs)	CEA Act Trigger
NEB	NEB Act section 52
Agriculture and Agri-Food Canada (AAFC)	Any pipeline crossings of AAFC lands for which Keystone requires AAFC licences.
Transport Canada (TC)	<i>Navigable Waters Protection Act (NWPA)</i> and section 108(4) of the NEB Act, any watercourse crossings (pipeline crossings and bridges) of navigable waterways. These include Red Deer River, South Saskatchewan River and Frenchman River crossings.
Canadian Transportation Agency (CTA)	Section 101(3) of the <i>Canada Transportation Act</i> , any pipeline crossings of federally regulated railway lines.
Federal Authorities (FA) with specialist advice <ul style="list-style-type: none">▪ Fisheries and Oceans Canada (DFO)▪ Environment Canada (EC)▪ Health Canada (HC)▪ Natural Resources Canada (NRcan)▪ Indian and Northern Affairs Canada (INAC)	

The FCN letter was also sent to provincial agencies in AB and SK. Alberta Environment (AENV) and Saskatchewan Environment (SE) expressed an interest in monitoring and participating in the EA although Provincial EA legislation was not triggered.

As part of pre-application federal coordination, the NEB in consultation with RAs and FAs prepared a draft scope of the EA for the Project, a notice of which was posted on the CEA Registry on 22 December 2008.

2.2 Opportunities for Public Input into the EA

On 12 May 2009, the NEB released Hearing Order OH-1-2009, describing the process of the oral public hearing for the Project. The NEB process allowed for a number of opportunities for the public (including government agencies and Aboriginal groups) to participate and provide input into the EA by providing comments on the scope of EA and list of issues, and by either filing a letter of comment, presenting an oral statement at the hearing or by participating as an intervenor. The Government Participant option was provided to government authorities with EA responsibilities to allow them to participate without becoming intervenors.

As described in Hearing Order OH-1-2009, the NEB held a public hearing process to consider the Application for the Project, with the oral portion of the hearing being held in Calgary from 15 September to 2 October 2009.

In addition, the draft Scope of the EA was attached to the Hearing Order inviting comments from the public including Aboriginal groups and government agencies on the scope of the EA for the Project. The parties were provided with an opportunity to suggest amendments or additions to the scope by filing their suggestion with the Board by 9 June 2009.

On 1 December 2009, the NEB sent a letter to interested parties inviting comments on the draft ESR. Further, a notice for public comment on the draft ESR was posted on the CEA Registry. Appendix 2 provides a summary of the key comments, some of which resulted in wording changes to the ESR. Explanations have been included for those comments that did not result in changes to the ESR.

3 SCOPE OF THE EA

The Scope of the EA (Scope) is composed of three parts:

1. Scope of the Project;
2. Factors to be Considered; and
3. Scope of the Factors to be Considered.

The Scope, as determined by the RAs, in consultation with the FAs and the public, in accordance with the CEA Act and the Federal Coordination Regulations, is included in Appendix 1 of this ESR and provides further information on these three parts.

4 DESCRIPTION OF THE PROJECT

Table 2: Details of the Project

Physical Work and/or Activity
<i>Construction Phase: timeframe: Proposed start in 2010 and completed by third quarter of 2012</i>
<ul style="list-style-type: none">▪ Construction of approximately 529 km (269 km in AB and about 260km in SK) of new 914 mm diameter (NPS 36) pipeline, of which 460 km is contiguous with existing pipeline RoW and about 69 km is non-contiguous▪ Construction RoW would be approximately 32 m wide and consist of about 13m to 20m permanent RoW, with about 12 m to 19 m of temporary workspace

Physical Work and/or Activity
<ul style="list-style-type: none"> Construction of the Hardisty B terminal consisting of three operational storage tank terminals with external floating roofs at the existing Hardisty tank terminal, each with a design capacity of about 55,600m³, along with ancillary facilities such as an initiating pump station, metering, control systems and pipeline interconnections Construction of seven mainline pump stations; four in AB namely, Lakesend, Monitor, Oyen South and Bindloss and three in SK namely Fox Valley, Piapot and Grassy Creek 32 mainline valve sites, launchers and receivers for maintenance and in-line inspections, cathodic protection for the pipeline and valves The Project would also include site preparation (clearing, stripping, stockpiling, grading and trenching), hydrostatic testing, and final reclamation Only one pump station (Fox Valley pump station) would require new access road (approximately 400 m). New access roads would not be required for remaining pump stations as they are located next to existing access roads The Red Deer River and South Saskatchewan River would be crossed using Horizontal Directionally Drilled (HDD) methods. The Frenchman river and Piapot creek would be crossed using a trenchless, low pressure horizontally drilled (HD) bore. All remaining watercourses would be crossed using an isolated method approach outside the restricted activity period or using an open-cut method when the watercourses would be dry or frozen New power lines and interconnects to supply power to pump stations and valve sites would be constructed, owned and operated by independent local power providers and would be subject to a separate regulatory process
<i>Operation Phase – Timeframe: 40+ years</i>
<ul style="list-style-type: none"> Computer based supervisory control and data acquisition (SCADA) system would be used to monitor and control pipeline operations from the company's existing Operations Control Centre in Calgary Regular aerial patrols, internal inspections and cathodic protection monitoring, pipeline markers at roads and pipeline watercourse crossings Operational maintenance and equipment/vehicle operation Maintenance of access roads Vegetation control for non-native and noxious plant species Periodic monitoring and follow-up for reclamation at wetlands, watercourses and native range Pipeline integrity maintenance, monitoring and emergency response for oil leaks and ruptures The project would follow the company's existing integrated public awareness program
<i>Abandonment Phase – Timeframe: 40+ years</i>
<ul style="list-style-type: none"> At the end of service life of the Project, an application pursuant to paragraph 74(1)(d) of the NEB Act would be required for its abandonment, at which time the environmental effects of the proposed abandonment activities would be assessed by the NEB under both the NEB Act and the CEA Act

5 DESCRIPTION OF THE ENVIRONMENT

Keystone used the following spatial boundaries to determine and assess the study area:

- The Project development area (PDA) encompasses the standard 32-m construction RoW and footprints associated with constructing the pipeline, access roads and associated facilities (e.g. pump stations);
- The local assessment area (LAA) includes the area over which the environmental or socio-economic effects of the Project could be measurable. For several of the disciplines, the LAA includes the project footprint and a 500-m buffer on either side of the RoW. For some components, the PDA coincided with the LAA; and

- The regional assessment area (RAA) is defined as the area including and extending beyond the LAA and varying with each discipline.

The following environmental elements have been described in detail in the ESA for the proposed Keystone Project.

Physical environment

- The Project traverses an area of southeastern AB and southwestern SK characterized by gently rolling plains.
- The route passes through the Aspen Parkland region, the Moist Mixed Grassland ecoregion and the Mixed Grassland ecoregion.
- The Project intersects the Great Sand Hills (GSH) area, a rare ecosystem. However, it is more than 15 km away from the GSH Reserve core area protected under the Provincial Lands Act of Saskatchewan.

Land Use and Socio-Economic Environment

- The primary land use traversed by the Project is agricultural and includes cropland, reseeded pasture and rangeland. The most agriculturally productive areas traversed by the Project are Aspen Parkland and Moist Mixed Grassland ecoregions. Other land uses include oil and gas resources and recreational activities.
- The Project route commences at Hardisty, a major hub for oil movement and export from AB.
- There are Crown lands to be disturbed for new construction in both AB and SK. In AB, 42 percent of all land traversed by the pipeline is provincial Crown land, with 36 percent designated Special Areas. In SK, 25 percent of all land traversed by the pipeline is provincial Crown land. The Project will traverse three community pastures administered by the federal Prairie Farm Rehabilitation Administration (PFRA), a branch of Agriculture and Agri-Foods Canada. Two of the PFRA community pastures Val Marie and Masfield occur along the south portion of the route in the swift Current Land Management District. The third community pasture, Big Stick, is located in the Maple Creek Land Management District in the central portion of the route through SK.
- The Red Deer, South Saskatchewan and Frenchman rivers have been determined as navigable by TC's Navigable Waters Protection Program.
- The Project is routed through rural areas of AB and SK with low population densities, which have experienced conventional oil and gas extraction activities in the past.
- The labour force in all areas is almost fully employed.

Soils

- The landscape is dominated by glacial surficial deposits, with bedrock exposures confined to the major river valleys.
- A precipitation gradient is observed from north to the south along the Project and is evident from the topsoil colour in the soil zones.
- Major soil forming processes experienced along the project route include salinisation and subsequent solodisation (solonchic soils) and wind erosion (regosolic soils on coarse textured areas).

Vegetation

- The selected route would cross ten environmentally significant areas within the LAA, four of which are identified as having national value, and six as having provincial value.
- Native vegetation increases along the pipeline route from Hardisty, AB to Monchy, SK.
- Remnant areas of Aspen Parkland are present between Hardisty and Gooseberry Lake; AB; native grasslands of the Moist Mixed Grassland ecoregion are dominated by plains rough fescue and Kooker's oatgrass; and native vegetation in the Mixed Grassland ecoregion is characterized by short and mid-height grasses.
- Rare plants and rare ecological communities were identified along the Project route in AB and SK. The project traverses through areas with known occurrences of plant species listed under Schedule I of the *Species at Risk Act* (SARA) (Slender mouse-ear cress - Schedule I threatened and Tiny Cryptanthus – Schedule I endangered species).
- A number of provincially listed species also have the potential to occur on the proposed route.

Wildlife and Wildlife habitat

- The Project area provides habitat for many species of migratory and non-migratory birds and traverses through important bird areas at Gooseberry Lake, AB and Bigstick Lake Plain, SK.
- In SK, the Project traverses *Wildlife Habitat Protection Act* lands, which are provincially registered wildlife reservations.
- Two amphibian species listed on Schedule I of SARA (the Great Plains Toad and Northern Leopard Frog) were identified in wetlands along the project route in both AB and SK.
- Three Schedule I SARA bird species (Sprague's Pitpit, Loggerhead Shrike and Long-billed Curlew), two burrowing owl nest sites listed as "endangered" on Schedule I of SARA and ten Ferruginous Hawks listed as "Special concern" were observed in the wildlife LAA along the Project route in AB and SK.
- Two mammalian SARA-listed species (Ord's Kangaroo Rat and Black-tailed Prairie Dog) were observed only in SK.
- There are several wetlands, sloughs and lakes along the Project route.

Atmospheric Environment

- A number of other existing storage tanks and related facilities are located at Hardisty tank terminal and affect the ambient air quality.

Acoustic Environment

- Noise levels in and around the Hardisty terminal are typical of an industrial facility. Ambient noise levels along the rest of the proposed RoW are generally quiet reflecting the more rural setting but subject to diurnal fluctuations and local noise sources such as vehicular traffic.

Wetlands

- There are small ephemeral, semi-permanent and permanent wetlands present along the proposed route. The total length of wetlands along the project route including both contiguous and non-contiguous pipeline RoW is 16.15 km in AB and 25.21 km in SK. Keystone will be conducting additional wetland surveys to refine the distribution of wetlands in the Project footprint.

Fish and Fish habitat

- The Project would cross 16 watercourses (10 in SK and 6 in AB), 13 of which are fish bearing.
- No fish species listed under Schedule I SARA were found within the Project area; however Lake Sturgeon are known to be present in the South Saskatchewan River and are considered as Endangered by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) and consultations are underway to list this species under SARA.

Hydrogeology

- The RoW crosses areas where shallow surficial aquifers with high groundwater yields exists in AB and SK and can be susceptible to surface contamination.
- A portion of the RoW east of Hardisty, AB is located between Alkali Lake and Shorncliffe Lake where salt affected groundwater has been observed.

Heritage and Paleontological Resources

- The Project's SK segment would cross the southern edges of the Great Sand Hills, an area recognized as having a high concentration of heritage resources.
- There are 125 previously recorded heritage resources near the proposed route in AB and 133 previously recorded heritage resources near the proposed route in SK. An additional 30 sites were located in SK and 19 sites in AB in the course of field surveys for the Project.

Aboriginal People and Traditional Land and Resource Use

- The route traverses lands covered by Treaty No. 4, Treaty No. 6, and Treaty No. 7, as well as traditional territories claimed by Cree, Blackfoot, Dakota, Saulteaux, and Métis communities.
- The Neekaneet and Red Pheasant First Nations stated that they continue to pursue traditional land uses in proximity to the route, including gathering of plants for traditional and medicinal use and hunting. The Sweetgrass and Moosomin First Nations also indicated that they continue to pursue traditional land use practices that would be affected by the Project.

6 COMMENTS FROM THE PUBLIC

6.1 CEAA-Related Project Issues Raised in Comments Received by the NEB

Several project-related issues were raised by the public to the Board. To view the submitted documents, please refer to the NEB website (www.neb-one.gc.ca) at <https://www.neb-one.gc.ca/11-eng/livelink.exe?func=11&objId=550305&objAction=browse&sort=-name&redirect=3>, and either select on the appropriate folder / subfolder or enter the Exhibit Number from the table below in the Search box.

Evidence was received from the Alberta Federation of Labour (AFL) and the Communications, Energy and Paperworkers Union of Canada (CEP) with respect to exporting of non-processed resources and loss of potential to create jobs. The submissions from AFL are outside the Scope of the EA for this Project and are addressed in the Board's Reasons for Decision (RFD).

The Sierra Club Canada (SCC) also raised EA policy and process related questions which, being broader in implication, are more appropriately addressed in the RFD than in this project-specific ESR.

Table 3: Submissions to the NEB

Name, date of submission and Exhibit Number	Comments
SE, 27 July 2009, E-6-1	<ul style="list-style-type: none">▪ Wildlife and wildlife habitat▪ Criteria for valve locations▪ Weed management Plan▪ Reclamation and stabilization of native vegetation▪ Surface water/ground water use or diversion▪ Watercourse crossings▪ Hydrostatic testing▪ Heritage resources
AAFC, 30 July 2009, D-1-4	<ul style="list-style-type: none">▪ Species at Risk▪ Reclamation▪ Seed mixes
TC, 9 June 2009, D-4-2	<ul style="list-style-type: none">▪ Watercourse crossings▪ Aboriginal concerns
EC, 29 July 2009, E-5-1	<ul style="list-style-type: none">▪ Migratory Birds▪ Species at Risk▪ Wetlands▪ Valve Placement▪ Wildlife and wildlife habitat▪ Reclamation
DFO, 29 June 2009, D-2-2	<ul style="list-style-type: none">▪ Watercourse crossings▪ Fish and fish habitat▪ Hydrostatic testing▪ Reclamation

Name, date of submission and Exhibit Number	Comments
Dale and Shirley McInnes, June 2009, C- 22	<ul style="list-style-type: none"> ▪ Negative impacts due to location of Grassy Creek pump station ▪ Noise concerns ▪ Light and visual impacts ▪ Odours ▪ Safety
Creston Anderson, June 2009, C-21	<ul style="list-style-type: none"> ▪ Noise concerns due to location of Grassy Creek pump station
June 2009: Craig Wilkins, C-26; Mary Swenson, C-25; Daryl Swenson, C-26; Dennis Swenson, C-24; Staples Farms Ltd., C-14	<ul style="list-style-type: none"> ▪ Noise concerns due to location of Bindloss pump station

Following the release of the draft ESR, a number of comments were received from EC and TC. Keystone also provided comments, including responses to a number of the comments made by these government agencies. To view the submitted documents, please refer to the NEB website (www.neb-one.gc.ca) at <https://www.neb-one.gc.ca/ll-eng/livelink.exe?func=ll&objId=550305&objAction=browse&sort=-name&redirect=3>, and select on the folder 'Environmental Screening'. Appendix 2 provides a summary.

6.2 Project-Related Issues Raised through Consultation Conducted by the Applicant

Keystone initiated its consultation program in March 2008 at the outset of the Project planning process. The program involved a variety of activities including direct contact with landowners, meetings with interest groups and government officials, public notices, open houses and the establishment of Project toll-free telephone lines, a Project e-mail address and Project website.

Keystone reported that concerns raised by the public included routing and pump station locations, integrity/safety/leaks, exporting of resources, traffic and increased road use, depth of cover for agricultural/ranch lands and road crossings, environmental impacts in Great Sand Hills Planning District, reclamation procedures, watercourse crossings, use of local infrastructure, emergency response procedures, land acquisition, impacts to agricultural lands and usage, and local socio-economic benefits.

In the Application, Keystone submitted that all issues raised by stakeholders had been resolved or were expected to be resolved to the satisfaction of the affected stakeholders. Where issues have not been resolved with landowners, Keystone committed to on-going consultation. Keystone also committed to ongoing consultation with all potentially impacted parties and noted that its consultation would be guided by TransCanada's consultation practices and Aboriginal Relations Policy.

The Board has given due consideration to all comments raised throughout this proceeding. The comments that relate to the Board's *CEA Act* mandate have been considered in the preparation of this ESR. A thorough consideration and discussion of all consultation matters, including the appropriateness of consultation design, implementation and outcomes, and requirements for ongoing and future consultations, will be included in the Board's RFD.

6.3 Comments received from Aboriginal Groups

Six Aboriginal communities and one Aboriginal organization participated in the OH-1-2009 proceeding. Alexander, Moosomin, Nekaneet, Red Pheasant, and Sweetgrass First Nations participated as intervenors, while letters of comment were filed by the Blood Tribe and the Federation of Saskatchewan Indian Nations (FSIN). The issues that these parties raised included: company consultation, Crown consultation, potential impacts on traditional and treaty lands and community uses of those lands, the adequacy of the traditional knowledge study, and potential employment opportunities and economic benefits.

Most of these issues are process related, and are discussed in the RFD for the OH-1-2009 proceeding. The issue of potential impacts on traditional and treaty lands and community uses of those lands is considered within this ESR. Keystone stated in its application that it would continue to follow its Aboriginal engagement process throughout the construction phase in the event of Project approval. It explained that this process includes discussions with Aboriginal communities to identify suitable mitigation of any Project-related impacts to current traditional land use and heritage and cultural resources. In the operations phase, Keystone plans to implement TCPL's Integrated Public Awareness program as a means to carry out on going Aboriginal consultation for the Project.

Since Aboriginal consultation is an ongoing process for any project, a condition directing Keystone to continue its consultations and to file a report on the results of those consultations before the start of construction would be recommended for inclusion in any approval (Condition L). This would ensure the effectiveness and adequacy of Aboriginal consultation for the Project. Keystone has acknowledged TC's comment that any site-specific mitigation for the prevention or minimization of Project-related impacts on current traditional land use should be included in the EPP. The Board would expect such information to be included in the EPP accordingly as part of Condition K.

7 METHODOLOGY OF THE NEB'S ENVIRONMENTAL ASSESSMENT

In assessing the environmental effects of the Project, the NEB used an issue-based approach. In its analysis within Section 8.2, the NEB identified interactions expected to occur between the proposed project activities and the surrounding environmental elements. Also included were the consideration of potential accidents and malfunctions that may occur due to the Project and any change to the Project that may be caused by the environment. If there were no expected element/Project interactions then no further examination was deemed necessary. Similarly, no further examination was deemed necessary for interactions that would result in positive or neutral potential effects. In circumstances where the potential effect was unknown, it was categorized as a potential adverse environmental effect.

Section 8.3 provides a brief overview of the Board's consideration of Keystone's standard design and practices to be relied on to mitigate the majority of potential adverse environmental effects.

Section 8.4 provides a more detailed analysis of potential adverse environmental effects, selected based on, public concern, the use of non-standard design or mitigation, or the relative importance of the elements in question in the context of this application. The analysis specifies those

mitigation measures, the ratings for criteria used in evaluating significance (as defined in Table 4 below), any monitoring and/or follow-up programs, and the views of the NEB along with any issue-specific recommendations are also provided.

Section 8.5 addresses cumulative effects, Section 8.6 addresses follow-up programs and Section 8.7 lists recommendations for any subsequent regulatory approval of the Project.

Table 4: Evaluation of Significance Criteria

Criteria	Rating	Definition
All criteria	Uncertain	When no other criteria rating descriptor is applicable due to either lack of information or inability to predict
Frequency (how often would the event that caused the effect occur)	Accidental	A rare and unplanned occurrence over assessment period
	Single	One time event within any phase of the project lifecycle
	Multiple/Frequent	Multiple occurrences during any phase of the project lifecycle
	Continuous	Continuous through any phase of the project lifecycle
Duration (duration of the effect)	Short-term	Adverse environmental effect duration is in the order of months and/or limited to the proposed construction
	Medium-term	Adverse environmental effect duration is in the order of a few years
	Long-term	Adverse environmental effect would remain evident throughout the planned operation of the pipeline or beyond the lifecycle of the Project
Reversibility	Reversible	Adverse environmental effect expected to return to baseline conditions within the life of the project
	Possible	Adverse environmental effect may or may not return to baseline conditions within the life of the project
	Irreversible	Adverse environmental effect would be permanent, or reversible only beyond the lifecycle of the project
Geographic Extent	Project Development Area (PDA)	Effect would be limited to construction RoW and footprints associated with constructing the pipeline, access roads and associated facilities such as pump stations
	Local Assessment Area (LAA)	Effect would generally be limited to 500 m buffer on either side of the RoW or falls within an element specific standard (e.g. 1500 m for noise as per Alberta Energy Resources Conservation Board's (ERCB) Directive 38
	Regional Assessment Area (RAA)	The area including and extending beyond the study area. The boundary varies with each discipline and can include natural sub regions, the home ranges of wildlife species, an airshed
Magnitude	Low	<ul style="list-style-type: none"> Effect is negligible, if any Effect anticipated to be restricted to a few individuals/species or only slightly affect the resource or parties involved Proposed project is consistent with, and effect is confined to land use zoning Effect would impact quality of life for some, but individuals commonly adapt or become habituated, and the effect is widely accepted by society
	Moderate	<ul style="list-style-type: none"> Effect would impact many individuals/species or noticeably affect the resource or parties involved Effect is detectable but below environmental, regulatory and/or

Criteria	Rating	Definition
		<p>social standards or tolerance</p> <ul style="list-style-type: none"> Proposed project is consistent with land use zoning and effect would encroach on neighboring land use sensitivities Effect would impact quality of life but the effect is normally accepted by society
	High	<ul style="list-style-type: none"> Effect would affect numerous individuals or affect the resource or parties involved in a substantial manner Effect is beyond environmental, regulatory and/or social standards or tolerance Proposed Project is not inconsistent with land use zoning or inconsistent with other land uses and sensitivities Effect would impact quality of life, result in lasting stress and is generally not accepted by society except under extenuating circumstance
Evaluation of Significance	Likely to be significant	Effects that are of high magnitude, or of continuous, irreversible, long term duration and regional in extent
	Not likely to be significant	Any adverse effect that does not meet the above criteria for "Likely to be Significant"

8 ENVIRONMENTAL EFFECTS ANALYSIS

8.1 Routing of the Pipeline

Keystone developed Project-specific routing and criteria for evaluation of a number of alternative routes for the Project. Each of these routing alternatives was evaluated by Keystone's interdisciplinary team comprising of engineering, construction, environmental and land specialists. For the AB segment (from Hardisty to McNeill), Keystone evaluated three potential alternative corridors based on length, constructability, minimizing non-contiguous length, minimizing watercourses and wetland crossings, and avoiding known environmentally sensitive land use features. In SK, Keystone selected the corridor based on the existing linear infrastructure.

Alternative route options for the crossing of the South Saskatchewan River were also considered because of environmental and constructability constraints in the vicinity of the river. An alternative route to paralleling the existing Keystone pipeline was selected because this route is shorter and therefore creates a smaller project footprint, and to avoid known SARA-listed plant sites.

Keystone's criteria for the selection of pump station sites included access from all-weather roads; proximity to existing power infrastructure; avoidance of permanent wetlands, native range and sites with documented occurrences of provincially or federally listed wildlife and plant species; constructability; and, public and stakeholder input.

Subsequent to its Application, in the summer of 2009, Keystone proposed some route modifications which resulted in the total of new non-contiguous RoW increasing to 69 kms. Additionally, Keystone relocated the Lakesend and Piapot pump stations to avoid a wetland and archaeological sites that were identified during surveys.

8.2 Project - Environment Interactions

8.2	Project - Environment Interactions			
	Environmental Element	Description of Interaction (How, When, Where), or why no interaction is expected	Potential Adverse Environmental Effect	Standard Mitigation to be Implemented (See section 8.3 and/or reference for Further Detailed Assessment)
Bio-Physical	Physical Environment – unique landforms	<ul style="list-style-type: none"> The Project traverses the GSH area and would entail construction equipment, clearing, stripping, grading, excavation and backfilling through the GSH area, including under non-frozen conditions 	<ul style="list-style-type: none"> Erosion of sandy soils and reduced biodiversity in the GSH area 	Y (Refer section 8.4.7 for details)
	Soil and Soil Productivity	<ul style="list-style-type: none"> Use of construction equipment and vehicles in clearing, stripping, grading, excavation and backfilling, at pump station sites and along the entire RoW 	<ul style="list-style-type: none"> Topsoil loss, compaction or mixing during handling Topsoil loss from surface water erosion or wind erosion Topsoil loss through trench instability Mobilization of existing soil contamination 	Y Y Y Y
	Vegetation and rare plants	<ul style="list-style-type: none"> Clearing, stripping, construction and operation activities along the RoW Non-native or invasive weed introduction and spreading from contaminated equipment, seed mixes or mulches, or by invasion from nearby areas Long term operational control and management of vegetation on the RoW 	<ul style="list-style-type: none"> Disturbance of grasses and forbs Fragmentation of native prairie Loss or alteration of native vegetation, rare ecological communities and rare plants Alteration of wildlife habitat Infestations of non-native or weed species outcompeting desired vegetation Long term interference in natural succession due to operational vegetation control 	Y (Refer section 8.4.2 for details) Y Y (Refer section 8.4.2 for details)
	Water Quality and Quantity	<ul style="list-style-type: none"> RoW clearing, stripping, grading, excavation and backfilling activities may disrupt surface and groundwater flows and quality Failure of watercourse isolation measures during excavation of a watercourse Failure of HDD or HD bore Failure of a temporary crossing over a watercourse 	<ul style="list-style-type: none"> Alteration of surficial natural drainage patterns Disruption of subsurface hydrologic flow and reduction of ground water quality and quantity Disruption to water well flows Introduction of sediments to surface water Introduction of contaminants, including any other deleterious substances 	Y Y Y Y Y

Environmental Element	Description of Interaction (How, When, Where), or why no interaction is expected	Potential Adverse Environmental Effect	Standard Mitigation to be Implemented (See section 8.3) and/or reference for Further Detailed Assessment
	<ul style="list-style-type: none"> Use of large volumes of water for hydrostatic testing of pipelines Excavation of trench through salt-affected area 	<ul style="list-style-type: none"> Sediment entering watercourse and erosion of disturbed areas adjacent to water bodies 	Y
		<ul style="list-style-type: none"> Deterioration of aquatic ecological integrity (fish bearing and no-fish bearing) and loss of fish habitat (See next element) Decreased surface water quality, soil quality, alteration or loss of vegetation 	Y
			N (Refer section 8.4.4 for details)
Fish and Fish habitat	<ul style="list-style-type: none"> Clearing, grading, excavation, and backfilling at watercourse crossings along the RoW Excavations of smaller watercourses would occur outside restricted activity periods Failure of a temporary crossing over a watercourse Failure of HDD or HD bore Use of large volumes of water for hydrostatic testing of pipelines 	<ul style="list-style-type: none"> Fish mortality (direct or indirect) and the alteration, disruption or destruction of fish habitat 	Y (Refer section 8.4.3 for details)
		<ul style="list-style-type: none"> Harmful alteration, disruption or destruction of fish habitat from the pipeline installation and access 	N (Refer section 8.4.3 for details)
Wetlands	<ul style="list-style-type: none"> Clearing, grading, excavation, and backfilling within proximity of wetlands 	<ul style="list-style-type: none"> Loss of wetland function, terrestrial and aquatic habitat in wetlands 	N (Refer section 8.4.5 for details)
		<ul style="list-style-type: none"> Disturbance to surface water and subsurface hydrologic flow 	
Wildlife and Wildlife Habitat	<ul style="list-style-type: none"> Removal of shrubs and trees during clearing of RoW and temporary workspace Excavation of trench Increased noise levels, from construction along RoW and from pump station operations Worker interaction with wildlife Waste generated by construction activity Long term operational control and management of vegetation on the RoW 	<ul style="list-style-type: none"> Disturbance of wildlife habitat Disturbance to nesting birds Sensory disturbance to wildlife Displacement of wildlife Wildlife conflicts and mortality Habituation of wildlife to construction waste Increased and long term vegetation management on the RoW 	Y (Refer section 8.4.1 for details)

Environmental Element	Description of Interaction (How, When, Where), or why no interaction is expected	Potential Adverse Environmental Effect	Standard Mitigation to be Implemented (See section 8.3) and/or reference for Further Detailed Assessment
SARA listed species (faunal)	<ul style="list-style-type: none"> Project RoW traverses through potential habitat of listed amphibian, bird and mammal species Construction activities associated with clearing, grading, excavation, installation and backfilling 	<ul style="list-style-type: none"> Loss or reduced habitat, mortality, stress, reduced reproductive success with concomitant population declines 	Y
		<ul style="list-style-type: none"> Disturbance to SARA listed amphibian species and habitat 	N (Refer section 8.4.1 for details)
		<ul style="list-style-type: none"> Disturbance to SARA listed birds 	Y
		<ul style="list-style-type: none"> Disturbance to SARA listed mammals 	U (Refer section 8.4.1 for details)
Air Quality	<ul style="list-style-type: none"> Air emissions from vehicles and equipment operation during construction Dust raised by vehicles and equipment on gravel roads and the RoW Operations related emissions (including hydrogen sulphide (H₂S), benzene and mercaptans) from evaporation of volatile components of oil products stored in the tanks at Hardisty 	<ul style="list-style-type: none"> Minor reductions in local air quality 	Y (Refer to section 8.4.6 for details)
		<ul style="list-style-type: none"> Temporary reductions in local visibility from dust 	
		<ul style="list-style-type: none"> Air emissions at Hardisty could potentially cause nuisance odours and human health effects on adjacent residents 	
Human Occupancy/ Resource Use	<ul style="list-style-type: none"> Clearing and construction activities on the RoW Loss of agricultural lands to accommodate the construction and operation of above ground facilities 	<ul style="list-style-type: none"> Disturbance to agricultural operations 	Y
Heritage Resources	<ul style="list-style-type: none"> Clearing and construction activities on the RoW 	<ul style="list-style-type: none"> Loss or alteration of previously identified and unidentified heritage or palaeontological resources 	Y
Traditional Land and Resource Use	<ul style="list-style-type: none"> Clearing, topsoil stripping, grading, trenching and backfilling along the RoW, at the Hardisty B terminal, and at the sites of proposed pumping facilities. Operation of equipment and vehicles during construction. 	<ul style="list-style-type: none"> Loss or alteration of traditional Aboriginal sites 	Y
		<ul style="list-style-type: none"> Disruption of, or inability to carry on, traditional activities 	Y

Socio-Economic

Environmental Element	Description of Interaction (How, When, Where), or why no interaction is expected	Potential Adverse Environmental Effect	Standard Mitigation to be Implemented (See section 8.3 and/or reference for Further Detailed Assessment)
Socio and Cultural Well-being	<ul style="list-style-type: none"> Interference to navigation from construction, operation and decommissioning of pipeline, temporary bridge crossings and hydrostatic testing AB and SK communities in the vicinity of the project already host existing oil company activities and facilities Little or no additional stress expected on the social infrastructure in the area Transportation effects will be minimal 	<ul style="list-style-type: none"> Navigation impacts on waterways and safety No potential for adverse effects 	Y
	<ul style="list-style-type: none"> Decreased air quality during construction, operation and maintenance (refer to Air Quality section above) Construction activities could impact potable water (refer to Water Quality and Quantity sections above) Increased noise levels during operations from pump stations, including Grassy Creek and Bindloss pump stations Visual and light impacts from pump stations 	<ul style="list-style-type: none"> Health effects on local residents from decreased air quality Health effects on local residents associated with impacts to water wells Health effects on local residents from changes to the acoustic environment as a result of pump station operations 	Y Y Y
	<ul style="list-style-type: none"> Spill or leak from damage and rupture to the facilities or equipment during construction and operations Failure of watercourse crossing methods 	<ul style="list-style-type: none"> Nuisance-related project effects on local residents from light pollution. Soil, water and groundwater contamination See Water quality and quantity and Fish and Fish habitat elements 	Y Y
	<ul style="list-style-type: none"> Severe weather conditions such as heavy precipitation, winds, blizzards, and thunderstorms could cause flooding, erosion trench wall slumping and unstable ground conditions 	<ul style="list-style-type: none"> Delay of construction Affect the operations of the Project Damage to infrastructure 	Y
Other			

Legend: Y (Yes); N (No); U (Uncertain); P (Positive); NI (Neutral); Adv (Adverse)

8.3 Standard Mitigation

The standard design and routine mitigation measures to be used to address potential adverse environmental and socio-economic effects from the Project identified in Table 8.2 are presented in Keystone's Environmental and Socio-Economic Assessment (ESA), subsequent submissions and Environmental Alignment Sheets. In addition, Keystone compiled its proposed mitigation measures including standard measures into a draft Environmental Protection Plan (EPP).

Several mitigation strategies have been and would be used to avoid or minimize the effects of the Project, including

- avoidance of valued ecosystem components through route selection;
- following existing RoW to minimize new disturbances;
- scheduling of activities to avoid sensitive periods;
- inspection during construction to ensure mitigation is implemented and effective; and
- system monitoring and maintenance activities to prevent impacts from any potential accidents during the operation of the pipeline system.

These measures have provided the Board with a sufficient basis to assess the potential adverse environmental effects and meet the objective of mitigating potential adverse environmental effects.

A standard mitigative measure is a specification or practice that has been developed by industry, or prescribed by a government agency, that has been previously employed successfully, and meets the expectations of the NEB.

To ensure that all standard mitigations measures, as well as others, are included and compiled together to ensure their effective implementation and are consulted on, the Board recommends that Keystone resubmit a revised and updated EPP as per Condition K. The Board recommends Condition M in order to ensure that all standard mitigation measures are followed with respect to heritage resources.

The NEB is of the view that for this Project, if Keystone follows the standard design and mitigative measures proposed and committed to in its application and during the public hearing process, then those potential adverse environmental effects which can be mitigated solely through standard mitigation are not likely to be significant.

8.4 Detailed Analysis of Potential Adverse Environmental Effects

The following section provides a detailed analysis for each potential adverse environmental effect which, is of public concern, or involves a monitoring or follow-up program, or requires non-standard mitigation measures, or necessitates implementation of an issue-specific recommendation.

Each analysis provides a background, specific mitigation measures, monitoring and/or follow-up programs, describes the views of the NEB along with any issue-specific recommendations, and provides ratings for the criteria used in evaluating significance.

8.4.1 Wildlife, Wildlife Habitat and Faunal Species at Risk

Issues	<ul style="list-style-type: none"> ▪ Loss and alteration of habitat; ▪ Sensory disturbance to nesting birds; ▪ Disturbance to SARA listed amphibians and reptiles; and ▪ Disturbance to SARA listed mammals.
Background	<p>Adverse effects on wildlife and wildlife habitat during construction and operation include mortality risk, changes in habitat availability due to vegetation clearing and indirect effects such as sensory disturbance and habitat connectivity. Certain species, such as rattlesnakes and amphibians could fall into the trench during construction and become trapped.</p> <p>The pipeline RoW intersects two locations with Ord's Kangaroo Rat populations. Keystone adjusted the route to avoid known dens of Ord's Kangaroo Rats. Keystone has also adjusted the route to meet the 500m setback from a Burrowing Owl nest at SE-10-013 24W3 (KP 354) as recommended by SE and EC.</p> <p>EC noted that there are three additional Burrowing Owl burrows in the Prairie dog colony and recommended Keystone to maintain the 500m setback and undertake appropriate surveys.</p> <p>The Project RoW is approximately 200 m from a Black-tailed Prairie Dog colony located on the Masfield PFRA pasture. The Masfield pasture has been preliminary identified as critical habitat for Swift Fox. EC noted that all the Prairie Dog colonies are listed as critical habitat under SARA for Black-footed Ferret. EC recommended that the pipeline be re-routed around the Masfield pasture and to minimize disturbance of native prairie. AAFC commented that new pipeline installations should have minimal impact on pasture operations and environment and acknowledged that the proposed route for the Keystone XL pipeline follows the existing right of way of the Foothills pipeline and would minimize disturbances of native prairie on community pasture.</p> <p>Furthermore, SE evaluated three routing options in relation to the Black-tailed Prairie Dog colony and concluded the proposed route would have less overall impact on native vegetation and habitat for all species, including species at risk, than would establishing a new RoW in order to avoid the colony. SE recommended that a detailed plan, including a traffic management plan, be developed to minimize activity within the 500 m buffer zone for the Black-tailed Prairie Dog colony.</p> <p>Keystone, during the oral public hearing, committed to consult with Environment Canada regarding options to avoid impacts to the Black-tailed Prairie Dog colony in Masfield pasture.</p> <p>Keystone has a number of field surveys still to be completed in order to identify wildlife and wildlife habitat and to develop further mitigation measures.</p>
Mitigation Measures	<ul style="list-style-type: none"> ▪ Mitigation measures would include adherence to timing restrictions on construction and clearing activities during the nesting season for migratory birds and setback distances. Where setback distances cannot be met, timing restrictions would ensure pipeline construction occurs during non-sensitive periods. In the event of construction and clearing activities within restricted activity periods for migratory birds, Keystone would undertake a pre-construction survey to ensure that no nests are destroyed or disturbed by construction activity. ▪ Keystone will frog-proof the wetlands and riparian areas where sensitive amphibian species have been identified, specifically Northern Leopard Frogs and Great Plains Toads. Keystone also commits to trenchless construction methods where threatened or endangered SARA listed species are identified or where standard mitigation is not sufficient to achieve protection. ▪ Keystone committed to consult with the appropriate regulatory agencies (e.g. AENV, AAFC, SE and EC) regarding the results of the additional field surveys and proposed mitigations. Mitigation measures will be reflected in the revised EPP and environmental alignment sheets which will be filed with the Board.

Monitoring	Keystone has committed to undertake post-construction surveys in the year following completion of construction where the Project is constructed within the recommended regulatory setback for SARA listed species.				
Views of the NEB	<p>The NEB recognizes that there is potential for the Project to disturb SARA listed species, species of special status, and birds protected by the <i>Migratory Birds Convention Act</i>.</p> <p>In order to verify appropriate protection of species at risk and to confirm that sufficient consultation has taken place with SE, AAFC, AENV and EC regarding mitigation, the following conditions would be recommended for inclusion in any approval granted to Keystone.</p> <p>Condition D: file methodology for conducting the surveys</p> <p>Condition E: file the results of the surveys, mitigation plan for each of the species and evidence of consultation with appropriate provincial and federal agencies.</p> <p>Condition I: additional environmental surveys committed to in Keystone's 28 August 2009 supplemental evidence.</p> <p>Condition O: pre-construction surveys to identify any migratory birds in the event of construction or clearing activities within restricted activity periods.</p> <p>Condition K: file traffic management plan as part of EPP to minimize total activity within 500 m buffer zone of Black-tailed Prairie Dog colony.</p> <p>Condition P: Post-Construction Environmental Monitoring</p> <p>The Board expects Keystone to consult with EC regarding avoiding impacts to the Prairie Dog colony and undertaking surveys for the Burrowing Owl species identified by EC within the Masfield colony.</p> <p>The Board is of the view that given the implementation of the above conditions and Keystone's proposed mitigation measures, any potential effects on wildlife and wildlife habitat, including SARA faunal species are not likely to be significant.</p>				
Evaluation of Significance	Frequency	Duration	Reversibility	Geographical Extent	Magnitude
	Multiple/Frequent	Short term	Reversible	RAA	Low
	Adverse Effect				
	Not likely to cause significant adverse environmental effects				

8.4.2 Rare Plants, Rare Ecological Communities, SARA Plant Species and Native Vegetation

Issues	<ul style="list-style-type: none"> Fragmentation and direct loss of, native vegetation, rare plants, rare ecological communities and SARA listed plant species Spread of weeds and non-native invasive species Appropriateness of seed mixes and reclamation measures
Background	<p>Clearing and construction of the pipeline has the potential to result in fragmentation and direct loss of valued components of native vegetation. Weeds and non-native species could become established and compete against native vegetation or hinder reclamation efforts.</p> <p>As part of addressing such impacts, Keystone committed to undertake several additional field surveys pertaining to rare plants, SARA listed plant species, and weeds and to developing site-specific mitigation plans to be incorporated into the Project EPP. With respect to the loss of rare plants and ecological communities, Keystone submitted that where this cannot be avoided, it would target a loss of no more than five percent.</p> <p>SE expressed concerns regarding the width of stripping in native prairie and asked that this be minimized as much as practical. SE also emphasized the importance of conducting pre-construction weed surveys and it provided recommendations on weed management.</p>

Mitigation Measures	<p>In addition to routing the Project immediately adjacent to other existing RoWs as much as possible to reduce overall fragmentation, Keystone also proposed the following measures specifically to reduce effects on rare plants, rare ecological communities, SARA plant species and native vegetation:</p> <ul style="list-style-type: none"> ▪ Narrowing the RoW or re-routing. ▪ Restrict topsoil stripping and RoW grading in areas near SARA-listed plants and limit blade width or ditch line width where practical. ▪ Establish additional cleaning stations to prevent the introduction of noxious or non-native invasive species from other areas along the pipeline RoW. ▪ Consult with provincial and federal agencies to refine mitigation plans and appropriate seed mixes for reclamation of native vegetation areas. ▪ Evaluate opportunities or options to offset cumulative effects on rare plant or rare plant communities.
Monitoring	<p>A long-term monitoring and research program for SARA-listed plant species and monitoring of rough fescue grasslands is in place on the existing Keystone Pipeline Project. Keystone has committed to apply the results of the monitoring and research program from the existing pipeline Project to the Keystone XL Project.</p>
Views of the NEB	<p>The NEB notes that rare plants are identified and listed as such precisely because they are already significantly impacted and need specific protection. Consequently, any further loss would leave the species no less significantly impacted, regardless of whether losses from any particular project are minor.</p> <p>The Board notes that Keystone's identification of a five percent loss as an acceptable threshold is adapted from the Alberta Native Plant Council's Guidelines for Rare Plant Surveys. The Board is of the view that it is inappropriate to apply such a survey criterion to other activities such as this Project, since repeated five percent losses of rare species, already significantly impacted, are potentially significant. In such circumstances it is imperative that a proponent either provide certain, lasting, and effective mitigation to achieve no loss, or provide sufficient offsets to compensate any loss. Consequently the NEB recommends Condition G. As part of an offset plan required by Condition G, the Board would expect Keystone to include a discussion of options available, criteria for selecting among the options, an implementation plan including criteria for measuring effectiveness and consultation with EC.</p> <p>Concerning Keystone's pre-construction surveys for rare and SARA-listed plants and rare ecological communities, the Board recommends that Keystone file, the methodology, prior to conducting the surveys, and the results of the surveys and detailed mitigation, as described in Conditions D and F. The Board expects Keystone to consult with EC as part of Condition F.</p> <p>The Board recognizes that noxious, restricted and invasive weeds are of concern, especially in native rangeland. In order to ensure that the weed surveys are conducted appropriately, that implementation of weed control is effective and that expert government departments are consulted, the Board recommends the filing of: a pre-construction weed surveys as described in Condition J, and a weed management plan as part of its EPP, as required in Condition K(a)(iii).</p> <p>To ensure that seed mixes and criteria for their use in reclamation are properly selected and appropriate regulatory agencies have been consulted, the Board recommends Condition K (a)(i).</p> <p>Finally, with respect to the base Keystone research and monitoring program for SARA-listed plant species and rough fescue grasslands, and how it would be applied to the reclamation of this Project, the Board is unclear from the evidence presented during the oral hearing how the results would be applied. The NEB therefore recommends as per Condition F(b)(ii) that the detailed mitigation plan, for rare and SARA listed plants and rare ecological communities, also include measures and a monitoring survey protocol for post-construction reclamation.</p>

Evaluation of Significance	Frequency	Duration	Reversibility	Geographical Extent	Magnitude
	Multiple/Frequent	Medium term	Possible	PDA	Moderate
	Adverse Effect				
	Not likely to cause significant adverse environmental effects				

8.4.3 Fish and Fish Habitat

Issues	<ul style="list-style-type: none"> Loss of drilling mud and cuttings to surface water due to failure of an HDD or HD bore.
Background	<p>Keystone would use trenchless methods for the crossing of the four main watercourses, the South Saskatchewan, Red Deer and Frenchman rivers and Piapot Creek. All remaining watercourses would be crossed using an isolated method approach outside the restricted activity period or using an open-cut method when the watercourses would be dry or frozen.</p> <p>The contingency method for Red Deer river, Frenchman river and Piapot creek is an isolated crossing and has been prepared.</p> <p>Subsequent to its application filing, Keystone submitted that an alternative to primary crossing location for South Saskatchewan River is being evaluated to 1) avoid SARA listed plant and wildlife species; 2) minimize traversing through native prairies; and 3) preclude constructability issues. The contingency crossing location for South Saskatchewan river will be outside the 1 km corridor and studies are currently being undertaken to finalize the contingency crossing location and method.</p> <p>Keystone committed to undertake all 16 watercourse crossings in accordance with DFO terms and conditions, including <i>DFO's Operational statement for isolated or dry open-cut stream crossings for SK and AB</i>. In the event where site or engineering considerations prohibit a crossing from being completed in accordance with DFO's terms and conditions, Keystone would submit detailed plans and would adhere to any letter of advice or authorization by DFO for the crossing.</p>
Mitigation Measures	<p>In addition to standard mitigation measures, the following best management practices would be implemented to prevent deleterious substances from entering the watercourses:</p> <ul style="list-style-type: none"> An environmental inspector or fisheries biologist/technician would be present to monitor construction at all watercourse crossings. Grading would be delayed on approach slopes to watercourses until immediately before construction. Appropriate temporary erosion and sediment control structures would be installed, where grading could not be delayed. Fish would be rescued from isolated watercourse crossings before dewatering and would be released into an unaffected reach of the watercourse. Keystone would comply with DFO's <i>Freshwater Intake End-of-pipe Fish screen Guideline</i> for use of pumps during any phase of trenched construction.
Monitoring	<ul style="list-style-type: none"> Water quality monitoring plans would be implemented at all crossing sites where there is potential for sediment introduction into surface water. Inadvertent mud release monitoring and response plans would be implemented at all HDD crossing sites. Reclamation measures would be monitored after completion of construction until vegetation has been established and the risk of sedimentation from erosion along the banks is eliminated.
Views of the NEB	<p>The Board is of the view that Keystone has committed to protect fish and fish habitat during the construction and operation of the Project. The NEB notes that Keystone is in the process of gathering site-specific information for evaluating both primary and contingency crossing location and contingency crossing method for the South Saskatchewan River and will file this information with the NEB.</p> <p>In order to ensure that any changes to proposed HDD or HD bore crossing methods are properly consulted on and mitigations are updated, the Board recommends:</p>

	<p>Condition C as described in section 8.7.</p> <p>Finally, the Board notes that should an HDD or HD bore crossing method fail and require implementation of contingency measures, Keystone would have to apply to DFO and TC who would review this in detail at that time. With respect to monitoring of reclamation measures, the Board expects Keystone to file this information as part of Condition P.</p>				
Evaluation of Significance	Frequency	Duration	Reversibility	Geographical Extent	Magnitude
	Accidental	Short term	Reversible	RAA	Moderate
	Adverse Effect				
	Not likely to cause significant adverse environmental effects				

8.4.4 Salt Affected Groundwater

Issues	<ul style="list-style-type: none"> Management and disposal of salt affected groundwater 				
Background	<p>A supplemental monitoring program was undertaken by Keystone to assess groundwater quality and quantity of the area of brine plume. Although the maximum depth of the pipeline trench during construction is expected to be approximately 2.5 m below ground, the maximum depth of investigation for the monitoring program was selected to 1.2 m below ground.</p> <p>Keystone has committed to develop special trench water management procedures in areas where there is a likelihood of encountering shallow brine-impacted groundwater during pipeline construction.</p>				
Mitigation Measures	<ul style="list-style-type: none"> Shallow groundwater in the two km section of the pipeline trench would be field-tested for concentrations of electrical conductivity, total dissolved solids and chloride before it is pumped out. Where dewatered groundwater exceeds criteria, special trenchwater management practices would be developed prior to construction. Keystone would work with AENV to determine the options for management and disposal of trench water which may include off-site disposal at an approved facility and diversion of the trench water to Shorncliffe Lake. 				
Monitoring	<p>Keystone would be undertaking further assessment of groundwater quality and quantity to delineate the plume and further evaluate the potential of encountering brine-impacted groundwater below 1.2 m.</p>				
Views of the NEB	<p>The NEB notes that Keystone will be undertaking further groundwater quality and quantity assessments in the area of the salt plume and will consult with AENV to discuss various mitigation measures.</p> <p>The NEB recommends the following condition to ensure that mitigation with respect to brine plume be developed, be consulted on and be included in the updated EPP, to ensure that there would not be any significant impacts to the environment:</p> <p>Condition K- special trenchwater management procedures in areas of brine plume.</p>				
Evaluation of Significance	Frequency	Duration	Reversibility	Geographical Extent	Magnitude
	Continuous	Medium term	Reversible	LAA	Moderate
	Adverse Effect				
	Not likely to cause significant adverse environmental effects				

8.4.5 Wetlands

Issues	▪ Loss or alteration of wetland communities and species				
Background	<p>Wetlands could be adversely affected during the construction and operation of the Project.</p> <p>Keystone stated that it recognizes the importance of the Federal Wetland Policy and the draft Alberta Wetland Policy and its associated goals and strategies, and that it has adopted the objective of no net loss of wetland function. Keystone added that it would achieve this by avoiding wetlands altogether or, where avoidance is not feasible, through mitigation strategies of soil conservation, invasive species management and reclamation using natural recovery.</p> <p>Avoidance of wetlands in areas where the proposed route was contiguous with existing pipeline corridors was not possible as this would result in increased land fragmentation.</p> <p>EC recommended that Keystone should provide a monitoring program to monitor the success of the wetland compensation to ensure wetland function can be restored and there is no net loss of wetland function. Keystone submitted that compensation within the hierarchical mitigation was not considered since pipeline crossings of wetlands are a temporary disturbance and the effects on wetlands are reversible and short-term in nature. Furthermore, Keystone stated that in the event post-construction monitoring determines that wetland reclamation has not been effectively achieved and there is some loss of wetland function, the need for compensation will be revisited.</p> <p>Keystone's ESA did not provide a list of all the permanent wetlands and wetlands of high ecological value, nor of the crossing methods for each of those wetlands.</p> <p>Keystone has committed to conduct comprehensive wetland surveys to mark wetland zone boundaries and classification, characterize vegetation of each zone, identify wetland crossing methods and develop site-specific mitigation measures.</p> <p>Upon completion of the surveys, Keystone committed to review the results with the appropriate provincial and federal regulatory authorities.</p>				
Mitigation Measures	<p>Keystone would provide an update on the crossing methods and mitigation measures based on the results of the surveys and consultations with expert authorities.</p> <p>Keystone has submitted that trenchless construction methods for crossings of wetland or riparian areas will be considered where there is a SARA– listed species, specifically those classed as endangered or threatened; or where Keystone determines that standard mitigation is not sufficient to achieve the desired degree of protection.</p>				
Monitoring	<p>Keystone stated that compensation will be considered in the event that the post-construction monitoring determines that wetland reclamation has not been effectively achieved, and there appears to be some loss of wetland function.</p>				
Views of the NEB	<p>Given that the wetland surveys are not complete with respect to delineation of wetland boundaries, characterization of vegetation and mitigation methods, the Board recommends the following:</p> <p>Condition H- file with the Board a comprehensive wetland survey and an updated EPP with specific wetland mitigation measures and evidence demonstrating consultation with appropriate provincial and federal authorities, including EC.</p> <p>Since Keystone considers compensation to be contingent on the success of wetland reclamation, the Board expects Keystone's mitigation plan for condition H to clearly describe the criteria for evaluating and monitoring the success of reclamation within the monitoring timeframe of condition Q and provide a protocol for how compensation would be addressed.</p>				
Evaluation of Significance	Frequency	Duration	Reversibility	Geographical Extent	Magnitude
	Multiple/Frequent	Medium term	Irreversible	LSA	Moderate
	Adverse Effect				
	Not likely to cause significant adverse environmental effects				

8.4.6 Atmospheric Environment - Operations Related Air Emissions from Hardisty B Tank Terminal

Issues	<ul style="list-style-type: none"> Air emissions from the Hardisty B Tank Terminal 				
Background	<p>Operations-related air emissions could be produced from evaporation of volatile components of the oil products contained in the tanks and could leak from the headspaces of the tanks. Air emissions could be greatest during tank-filling episodes when the vapour space inside the tanks is replaced with the product. These emissions would include Hydrogen sulphide (H₂S), Benzene and mercaptans that have the potential to cause nuisance odours and adverse human health effects.</p> <p>Keystone conducted dispersion modeling to predict ground level concentrations in and around the Hardisty complex and at sensitive receptor locations. Keystone stated that all air contaminants in the area within the Hardisty complex and at sensitive receptor locations would be below the relevant regulatory criteria for ambient air quality.</p> <p>Keystone did not consider emissions due to inspection and maintenance activities such as degassing and cleaning in the emission estimate calculations.</p>				
Mitigation Measures	<p>In addition to the standard mitigation measures outlined in the ESA and EPP, Keystone provided additional mitigative options to address any air quality issues that may arise during tank degassing and cleaning activities:</p> <ul style="list-style-type: none"> Develop formal operating procedures to schedule tank degassing and cleaning activities to manage odours. Consider installing enhanced vapor controls on any critical tanks and if warranted, install a vapour collection and treatment or recovery system. Manage the disposition of products so that the product with greatest emissions is stored in tanks at the centre of the terminal thereby allowing maximum atmospheric dispersion before the emissions reach the site boundary. <p>Keystone would incorporate "Best Available Technology that is Economically Achievable" (BATEA) to reduce and limit its air emissions from the storage tanks.</p>				
Monitoring	<p>Keystone would participate in the ambient air quality program initiative for the airshed supported by AENV and the Hardisty Complex member operators. Keystone has been a participant in the Hardisty Complex Community Group since the approval of the TransCanada Keystone Hardisty A terminal and is committed to continual involvement in the Hardisty Complex Community Group.</p>				
Views of the NEB	<p>The NEB notes that Keystone has proposed various mitigation measures to reduce potential air emissions primarily generated from the degassing and cleaning activities of the tanks.</p> <p>The Board is of the view that given the implementation of the above mitigation measures, any potential adverse environmental effects are not likely to be significant.</p>				
Evaluation of Significance	Frequency	Duration	Reversibility	Geographical Extent	Magnitude
	Multiple/Frequent	Short term to medium term	Irreversible	RAA	Moderate
	Adverse Effect				
	Not likely to cause significant adverse environmental effects				

8.4.7 Great Sand Hills Reclamation Plan

Issues	<ul style="list-style-type: none"> Erosion control in areas of sandy soil
Background	<p>The project traverses through the GSH area, a rare ecosystem. Although the Project is located more than 15 km away from the GSH Ecological Reserve core area.</p> <p>SE expressed concerns with respect to construction disturbance under non-frozen conditions, post-construction erosion control and invasion by weeds.</p>

	SE provided recommendations on stabilization of soils subsequent to construction and emphasized on a rapid return to pre-development conditions and conservation of native species. SE recommended that Keystone should involve Saskatchewan Agriculture, affected rural municipalities and the GSH Planning District in the development of reclamation plan.				
Mitigation Measures	In addition to standard mitigation measures for erosion control, Keystone committed to develop a detailed reclamation plan specific to the portion of the GSH traversed by the Keystone XL pipeline. Keystone agreed to SE’s recommendation to consult with the appropriate departments and stated that the experience gained from the reclamation research by TransCanada Pipelines Limited would be incorporated in the plan.				
Views of the NEB	To ensure that the GSH reclamation plan is adequate and effective, and that there would be no significant effects, the NEB recommends Condition K that Keystone file with the Board a detailed reclamation plan specific to the GSH in the EPP to address any concerns related to construction in areas of sandy soil.				
Evaluation of Significance	Frequency	Duration	Reversibility	Geographical Extent	Magnitude
	Multiple/Frequent	Medium Term	Reversible	PDA	Moderate
	Adverse Effect				
	Not likely to cause significant adverse environmental effects				

8.4.8 Increased Noise Levels During Operations

Issues	<ul style="list-style-type: none"> Potential health effects on local residents in close proximity to the Grassy Creek pump station from changes to the acoustic environment as a result of pump station operations
Background	<p>The Keystone ESA described the results of the assessment of potential effects on the acoustic environment and included a commitment to following the guidelines outlined in the Alberta Energy Resources Conservation Board's (ERCB) Directive 38 on noise. It also indicated that there were anomalies around the baseline measurement of the acoustic environment at the proposed location of the Grassy Creek pump station and, therefore, the predicted sound levels associated with the Application Case modeling scenario for the Grassy Creek pump station are slightly above the ERCB guidelines for Predicted Sound Level (night) at the receptor.</p> <p>Dale and Shirley McInnes, as intervenors, expressed concerns over the noise levels of the Grassy Creek pump station and the potential negative impacts that this would have on their health and quality of life.</p>
Mitigation Measures	Keystone committed to work with the McInnes to determine an acceptable solution to the noise concerns, either through mitigation or some other means short of relocating the Grassy Creek pump station.
Monitoring	Keystone indicated that it intends to do follow-up noise monitoring at all pump stations where landowners have expressed concerns over noise levels on a proactive rather than a complaint basis.
Views of the NEB	With respect to the noise level concerns raised by the McInnes, the Board notes that Keystone has committed to re-doing the noise assessments at the McInnes' residence to ensure that the noise levels from the pump station will, at minimum, be in accordance with ERCB Directive 38. To avoid potential discrepancies in noise assessment results, the Board directs Keystone to adhere to the methodological guidelines as outlined in ERCB Directive 38. The Board also anticipates that Keystone will consider noise mitigation measures in addition to Directive 38 in order to minimize, to every extent possible, noise levels affecting the McInnes' quiet enjoyment of their property.

	In order to facilitate the implementation of effective abatement strategies, including but not limited to the Grassy Creek pump station, the Board recommends Condition N pursuant to which Keystone shall maintain and file with the Board, upon request, a consultation and complaint monitoring report. The Board expects such a report to include: a chronological account of all landowner consultations, including all comments or concerns raised; all actions undertaken by Keystone to resolve each concern; and, a self assessment from Keystone determining whether it has achieved its stated consultation objectives for each concern.				
Evaluation of Significance	Frequency	Duration	Reversibility	Geographical Extent	Magnitude
	Continuous	Long Term	Reversible	LAA	Moderate
	Adverse Effect				
	Not likely to cause significant adverse environmental affects.				

8.5 Cumulative Effects Assessment

The assessment of cumulative effects entails considering the impact of the residual effects associated with the Project in combination with the residual effects from other projects and activities that have been or that are likely to be carried out, within the appropriate temporal and spatial boundaries and ecological context.

A Project inclusion list was developed by Keystone to allow an assessment of cumulative effects of the Project in combination with other Projects or activities that have been or will be done. Past projects were also captured within the baseline of the environmental assessment for each of the various valued ecological components. Keystone's ESA provides additional details on its cumulative effects assessment methodology.

Other existing project facilities in proximity to the Project and with residual effects that may interact with the Keystone XL Project include:

- the existing Keystone Pipeline, for a segment in AB from the southeast corner of Gooseberry Lake to the SK border;
- the existing Foothills Pipeline in SK;
- existing, approved and planned storage tanks (89 in total) at the Hardisty complex; and
- pump station associated with existing TransCanada Keystone Hardisty A Terminal.

Potential cumulative effects include:

1) *Alteration, fragmentation and loss of native vegetation and wildlife habitat:*

Native vegetation along the Project route and in the RAA has already been altered due to past agricultural, industrial and residential development activities. The greatest change is likely cultivation and conversion of native range into pastures, resulting in loss of native prairie at a landscape level. In addition, other oil and gas developments, including drilling and pipeline projects in the area, also disturb native prairie, parkland habitat and species that inhabit these habitats.

Clearing for the Project has the potential to result in loss of native vegetation within the RoW, and fragmentation of the landscape where the RoW does not follow existing RoW. Project

construction activities also have the potential to affect reclamation efforts on the existing Keystone Pipeline project.

Although the Project would result in a widening of existing pipeline RoWs where the Project is contiguous with other RoWs, the RoWs would overlap by about 10 m thus reducing the potential loss of vegetation compared to if the Project were in an entirely separate RoW. Maximizing the length of contiguous RoW also acts to substantially reduce overall landscape fragmentation.

Keystone predicted that the Project's contribution to loss of native vegetation is low and will not affect the viability or sustainability of wildlife and wildlife habitat. Keystone submitted that these effects could be minimized through the implementation of proper mitigation measures.

2) *Loss of rare plants and ecological communities*

Construction of the pipeline has the potential to result in direct loss of rare plants and ecological communities.

As with the alteration and loss of native vegetation above, perhaps the greatest source of past impacts on rare plants and ecological communities is the landscape level change in land use brought about through cultivation and the conversion of native range into pastures. Other human activities and developments have also had a role.

Keystone indicated that its preferred approach is to avoid new disturbances affecting SARA plant species, rare plants or rare ecological communities and has considered them in route design and planning process. Where avoidance of direct effects on rare plants and ecological communities is not possible, Keystone proposed a target of no more than a 5% loss of the immediate population of rare plants and rare ecological communities. This is further discussed in section 8.4.2.

3) *Increase in air contaminants*

Cumulative environmental effects might result from the release of air contaminants from the Keystone XL Hardisty B terminal, in combination with air contaminants from existing, approved, and publicly disclosed future planned developments at Hardisty, resulting in increased concentrations. Keystone conducted dispersion modeling to predict ground-level concentrations of H₂S, Benzene and Mercaptans. Although the Project contribution to the total residual cumulative environmental effect would result in an increase of maximum predicted ground-level concentrations ranging from 0.002 to 32.7 % higher than those associated with the Baseline case, all the predicted concentrations were below the relevant regulatory criteria for ambient air quality.

Keystone would ensure compliance with regulatory air quality guidelines during the construction and operation phases of the Project. Keystone's ESA indicated that with the implementation of mitigation and environmental protection measures, the effect of the Project on the atmospheric environment is considered to be not significant. Keystone stated that it is committed to participate in the ambient air quality monitoring program for the Hardisty airshed.

4) *Increased Cumulative Noise Levels at Hardisty and at Pump Station Sites*

Keystone identified a number of other existing, or future likely developments with potential noise emissions and which may occur within 1.5 km of Project noise sources at Hardisty and at the pump stations.

The predicted sound levels for all pump stations associated with the project in combination with other projects located within 1.5 km of the project are below the relevant regulatory guideline except for Grassy Creek Pump Station. Keystone indicated that there were data abnormalities in baseline sound measurement for the Grassy Creek pump station and that it would conduct follow-up monitoring.

Modelling of the residual and cumulative noise levels predicted that levels would remain within regulatory guidelines and are not considered to be significant.

Views of the Board

The Board is of the view that the cumulative effects assessment presented by Keystone for the Project fulfills the requirements outlined in the Scope of the Factors for the Project.

With respect to the potential loss of rare plants and communities, the Board finds that losses of plant species or ecological communities that are already listed as rare is potentially significant. Consequently the Board recommends, as described in section 8.4.2, that Keystone either achieves no loss, or that it provide sufficient offsets to compensate for any loss.

The Board is of the view that taking into consideration Keystone's Project-specific environmental protection and mitigation measures and the recommendations referred to in section 8.7, the Project would not likely result in significant adverse cumulative environmental effects in combination with other projects or activities that have been or will be carried out.

8.6 Follow-up Program

The Project and its associated activities are generally routine in nature and the potential adverse environmental effects of the Project are expected to be similar to those of past projects of a similar nature in a similar environment. For this reason, the NEB is of the view that a follow-up program pursuant to the CEA Act would not be appropriate for this Project.

The Board understands that other RAs may rely on the NEB EA report to the extent possible but may produce an appendix to the EA report if necessary. Other RAs will provide their respective determinations and may conduct a follow-up program to ensure that mitigation measures related to their areas of responsibility identified through EA, and any conditions attached to licenses and approvals, are effectively implemented.

8.7 Recommendations

The following are recommended conditions that may form part of any regulatory decision on the proposed Project under the NEB Act. Conditions A, B & Q are standard conditions that appear in most Board authorizations.

Definition for the Commencement of Construction means: clearing of vegetation, ground-breaking and other forms of right-of-way preparation that may have an impact on the environment, but does not include activities associated with normal surveying operations.

- A. Keystone shall implement or cause to be implemented all of the policies, practices, programs, mitigation measures, recommendation and procedures for the protection of the environment included in or referred to in its application or as otherwise agreed to during questioning in the OH-1-2009 proceeding or in its related submissions.
- B. Keystone shall maintain at its construction office(s):
 - a) an updated Environmental Commitments Tracking Table listing all regulatory commitments, including but not be limited to all commitments resulting from:
 - i) the NEB application and subsequent filings;
 - ii) undertakings made during the OH-1-2009 proceedings; and
 - iii) conditions from permits, authorizations and approvals.

Keystone shall also file the updated Environmental Commitments Tracking Table, with the Board 15 days prior to construction.

- b) copies of any permits, approvals or authorizations for the applied-for facilities issued by federal, provincial or other permitting agencies, which include environmental conditions or site-specific mitigative or monitoring measures; and
 - c) any subsequent variances to any permits, approvals or authorizations.
- C. Keystone shall file with the Board either:
 - a) upon successful completion of the Horizontal Directionally Drilled (HDD's) or HD bore watercourse crossing for the Red Deer, South Saskatchewan, and Frenchman Rivers and Piapot Creek, confirmation of their completion; or
 - b) in the event of any changes to the proposed HDD/HD bore watercourse crossing method for the Red Deer, South Saskatchewan or Frenchman Rivers or Piapot Creek, at least 10 days prior to crossing,
 - i) notification in writing of such change to the proposed crossing method and the reason for that change;
 - ii) evidence of consultation with appropriate provincial and federal regulatory authorities that have an interest in the watercourse crossings and provide copies of all relevant correspondence from them; and
 - iii) file for approval, at least 10 days prior to implementing the revised watercourse crossing method, a description of: 1) amended reclamation and re-vegetation

measures; 2) amended mitigation measures for the protection of Aboriginal heritage and traditional resources; and 3) fish and fish habitat monitoring for the affected watercourse crossings.

- D.** Keystone shall file with the Board for approval, at least 60 days prior to starting each pre-construction survey:
- a) a methodology for conducting the surveys for rare and SARA listed plants and rare ecological communities;
 - b) a methodology for conducting the confirmatory surveys for faunal species of management concern (including Ord's Kangaroo Rat, Swift Fox, Ferruginous Hawk, Burrowing Owl, Black-tailed Prairie Dog, sharp tailed grouse, loggerhead shrike and SARA listed amphibians); and
 - c) evidence of consultation on the above methodologies with appropriate provincial and federal regulatory authorities and provide copies of correspondence from these regulatory authorities regarding the methodology.
- E.** Keystone shall file with the Board for approval, at least 60 days prior to construction:
- a) the results of the confirmatory surveys for species of management concern, including Ord's kangaroo rat, swift fox, ferruginous hawk, burrowing owl, black tailed prairie dog, sharp tailed grouse, loggerhead shrike and SARA listed amphibians;
 - b) a detailed mitigation plan for each of the above species affected by construction and operation activities;
 - c) evidence of consultation with appropriate provincial and federal regulatory authorities and copies of correspondence from these regulatory authorities regarding satisfaction with the proposed mitigation; and
 - d) confirm that the EPP has been updated to include the mitigation measures.

Construction shall not commence until Keystone has received approval of its SARA survey results and mitigation plans from the Board.

- F.** Keystone shall file with the Board for approval, at least 60 days prior to construction:
- a) the results of the surveys for rare and SARA listed plants and rare ecological communities;
 - b) a detailed mitigation plan for each of these species affected by construction activity, including but not limited to:
 - i) measures to be implemented during construction;
 - ii) measures and a monitoring survey protocol for post-construction reclamation; and

- iii) a survey methodology for determining the extent of non-avoidable impacts on rare and SARA listed plants and rare ecological communities.
- c) evidence of consultation with appropriate provincial and federal regulatory authorities and copies of correspondence from these regulatory authorities regarding satisfaction with the proposed mitigation plan; and
- d) confirmation that the EPP has been updated to include the relevant mitigation measures.

Construction shall not commence until Keystone has received approval of its SARA survey results and mitigation plans from the Board.

- G.** Keystone shall file with the Board for approval, at least 120 days prior to leave to open, a plan for the provision and implementation of offset measures for all non-avoidable impacts on rare and SARA listed plants and rare ecological communities. The plan shall include but not be limited to, the results from surveys for determining the extent of non-avoidable impacts, and evidence of consultations with appropriate government agencies and relevant stakeholders.
- H.** Keystone shall file with the Board for approval, at least 60 days prior to construction, a comprehensive wetland survey. The survey shall include:
 - a) the methodology for conducting the survey;
 - b) the results of the survey;
 - c) the criteria, and the rationale for the criteria, for the crossing methods and mitigation measures to be employed;
 - d) evidence demonstrating consultation with appropriate provincial and federal regulatory authorities; and
 - e) confirmation that the EPP has been updated to include the mitigation measures.
- I.** Keystone shall file with the Board for approval, at least 60 days prior to construction, additional surveys and assessments committed to in its 28 August 2009 Supplemental evidence necessary to address facility location and route changes extending beyond the 1 km wide study corridor assessed for the ESA.

The surveys and assessments shall include:

- a) the methodology for conducting the surveys (for those methodologies not otherwise conditioned);
- b) the results of the surveys;
- c) mitigation measures;

- d) evidence of consultation with appropriate provincial and federal regulatory authorities; and
- e) confirmation that the EPP has been updated to include the mitigation measures.

J. Keystone shall file with the Board for approval, at least 60 days prior to construction:

- a) the results of the pre-construction weed surveys to identify the presence and density of weeds in areas that will be affected by the construction of the Keystone XL pipeline;
- b) the methodology for conducting the surveys;
- c) evidence demonstrating consultation with appropriate provincial and federal regulatory agencies regarding the methodology and results; and
- d) confirmation that the EPP has been updated to include the mitigation measures.

K. Keystone shall file with the Board for approval:

- a) at least 90 days prior to the commencement of construction, a draft Project-specific Environmental Protection Plan (EPP). The EPP shall be a comprehensive compilation of all environmental protection procedures, mitigation measures, and monitoring commitments, as set out in Keystone's application for the Project, subsequent filings or as otherwise agreed to during questioning in the OH-1-2009 proceeding or in its related submissions. The EPP shall also include measures arising from additional studies conducted in 2009 & 2010 with updated Environmental Alignment Sheets. The EPP, as appropriate, shall include but not be limited to:
 - i) seed mixes and criteria for their use in the reclamation of the project and confirmation that appropriate provincial and federal regulatory agencies have commented on the proposed seed mixes;
 - ii) evidence that landowners have been consulted on seed mixes to be applied to their directly affected land;
 - iii) an updated Weed Management Plan, including evidence demonstrating consultation with appropriate provincial and federal regulatory agencies, and directly affected landowners in developing the plan;
 - iv) a Great Sand Hills Reclamation plan for pipeline construction, developed in consultation with appropriate provincial and federal regulatory agencies;
 - v) a Traffic Management Plan to minimize total activity including, where relevant, construction within a 500 m buffer zone of Prairie dog colonies; and
 - vi) special trenchwater management procedures in areas where there is a likelihood of encountering shallow brine-impacted groundwater during dewatering for pipeline construction.

- b) at least 45 days prior to the commencement of construction, a final EPP for approval, which shall include but not be limited to, updated mitigations and any other updates resulting from survey results, and any changes resulting from consultation on the previous draft EPP. Keystone shall also provide evidence of consultations and describe how any outstanding concerns will be addressed.

Construction shall not commence until Keystone has received approval of its EPP.

- L. Keystone shall continue to consult with Aboriginal groups who have expressed interest in the Project regarding the details of construction phase of the project as well as its plan for monitoring procedures for the protection of Aboriginal heritage and traditional resources. Keystone shall file with the Board, at least 60 days prior to the commencement of construction, an update on its consultations with Aboriginal people, including:
 - a) concerns raised by Aboriginal people;
 - b) a summary indicating how Keystone will address any concerns raised during these consultations; and
 - c) its plan describing monitoring procedures for the protection of Aboriginal heritage and traditional resources during construction.
- M. Keystone shall file with the Board, at least 30 days prior to commencement of construction.
 - a) a copy of clearance received under the Alberta Historical Resources Act;
 - b) all comments and recommendations received from the provincial authorities in SK and AB regarding the Heritage Resources Impact Assessments; and
 - c) for approval, the mitigation measures that Keystone proposes to address the comments and recommendations in b).
- N. For the duration of construction and for a period of at least five years following leave to open, Keystone shall maintain and upon request file with the Board a construction consultation and complaint monitoring report that provides a Landowner Consultation Tracking Table that will include, but not be limited to:
 - a) a description of any landowner consultations undertaken including the method of consultation, dates, and a summary of any comments or concerns raised by landowners or potentially affected persons or groups;
 - b) a summary of actions undertaken by Keystone to address each of the comments or concerns raised by potentially affected persons or groups; and
 - c) a description of how Keystone intends to measure whether and to what extent it is achieving its stated objectives regarding consultation.

- O.** In the event of construction or clearing activities within restricted activity periods for migratory birds, Keystone shall retain a qualified avian biologist to carry out a pre-construction survey to identify any migratory birds and active nests in areas immediately surrounding the site (30 metres for migratory birds and 100 metres for raptors) and shall file with the Board within 15 days following the construction or clearing activities:
- a) the results of the survey;
 - b) mitigation, including monitoring, developed in consultation with Environment Canada and Canadian Wildlife Service, to protect any identified migratory birds or their nests;
 - c) mitigation, including monitoring, developed in consultation with Environment Canada and Canadian Wildlife Service to protect any identified *Species at Risk Act* birds or their nests; and
 - d) evidence to confirm that the appropriate provincial and federal regulatory authorities were consulted, on the proposed methodology for the survey, the results from the survey and the mitigation and monitoring to be used, and a description of any outstanding concerns they may have.

If no construction or clearing activities occur within restricted activity periods for birds, Keystone shall notify the Board of this within 15 days following the last restricted activity period to occur during construction.

- P.** Keystone shall file with the Board, 6 months after the commencement of operation, and on or before the 31st January for each of the subsequent 5 years, a post-construction environmental monitoring report that:
- a) describes the methodology used for monitoring, the criteria established for evaluating success and the results found;
 - b) assesses the effectiveness of the mitigation measures applied during construction against the criteria for success;
 - c) identifies deviations from plans and alternate mitigation applied as approved by the Board;
 - d) identifies locations on a map or diagram where corrective action was taken during construction and the current status of corrective actions; and
 - e) provides proposed measures and the schedule Keystone shall implement to address any unresolved concerns.
- Q.** Keystone shall comply with all of the conditions contained in this Certificate unless the Board otherwise directs.

9 THE NEB'S CONCLUSION

The NEB has determined, pursuant to the CEA Act, that, if the Project is approved and taking into account the implementation of Keystone's proposed mitigation measures, compliance with the Board's regulatory requirements and the recommended conditions attached to the ESR, the construction and operation of the pipeline and associated facilities is not likely to cause significant adverse environmental effects.

This ESR was approved by the NEB on the date specified on the cover page of this report under the heading CEA Act Determination Date.

10 NEB CONTACT

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APPENDIX 1:

DRAFT SCOPE OF ENVIRONMENTAL ASSESSMENT

TransCanada Keystone Pipeline GP Ltd.
Proposed Keystone XL Pipeline
Draft Scope of the Environmental Assessment Pursuant to the
Canadian Environmental Assessment Act

1.0 INTRODUCTION

TransCanada Keystone Pipeline GP Ltd. (TransCanada) is proposing to construct and operate the Keystone XL Pipeline Project (the Project). This would require a Certificate of Public Convenience and Necessity pursuant to the section 52 of the *National Energy Board Act* (NEB Act). The Project would also be subject to an environmental screening under the *Canadian Environmental Assessment Act* (CEA Act).

On 18 July 2008, TransCanada filed a Project Description with the NEB regarding the proposed Project. The intent of the Project Description was to initiate the environmental assessment process (EA) pursuant to the CEA Act.

On 31 July 2008 the Board sent out a Federal Coordination Notification letter pursuant to section 5 of the CEA Act *Regulations Respecting the Coordination by Federal Authorities of Environmental Assessment Procedures and Requirements* (Federal Coordination Regulations). In response, the following departments identified themselves either as a Responsible Authority (RA) likely to require an EA under the CEA Act or as a Federal Authority (FA) in possession of specialist or expert information or knowledge in respect of the proposed project EA:

- National Energy Board – RA
- Agriculture and Agri-Food Canada (AAFC) – RA
- Canadian Transportation Agency (CTA) – RA
- Transport Canada (TC) – RA
- Department of Fisheries and Oceans – FA
- Environment Canada – FA
- Natural Resources Canada – FA
- Health Canada – FA

AAFC, the CTA and TC's responsibilities will be defined relative to their particular triggers under the CEA Act.

The Provinces of Alberta and Saskatchewan also expressed an interest in monitoring and participating in the EA although Provincial EA legislation is not triggered.

This Scope of the EA was established by the RAs, after consulting with the FAs, in accordance with the CEA Act and the Federal Coordination Regulations.

On 27 February 2009, TransCanada filed an application with the NEB. The information contained within the application remains materially the same as that described in the Project Description.

2.0 SCOPE OF THE ASSESSMENT

2.1 Scope of the Project

The scope of the Project for the NEB as determined for the purposes of the EA includes the various components of the Project described by TransCanada in its 27 February 2009 Project Application submitted to the NEB. The physical activities include construction, operation, maintenance and foreseeable changes and, where relevant, the abandonment, decommissioning and site rehabilitation relating to the entire Project, including the following physical works described in greater detail in TransCanada's Project Description:

Pipeline

Approximately 525 km of new 914 mm outside diameter oil pipeline, extending from Hardisty, Alberta (AB) to the international border between Canada and U.S. near Monchy, Saskatchewan (SK), plus additional related facilities (see below). The pipeline would cross the AB-SK boundary near McNeill, AB, with about 266 km in AB and 259 km in SK. Approximately 475 km of the pipeline would be contiguous with existing pipeline right-of-way (RoW) and approximately 50 km would require new non-contiguous RoW.

Construction is proposed to begin in mid-2010 and be completed in 2012.

Hardisty Terminal

Three operational storage tanks would be constructed at the pipeline terminal in Hardisty and would include the following ancillary facilities: an initiating pump station; metering facilities; control systems; and pipeline interconnections.

Pump stations

Seven additional intermediate pump stations consisting of three to five 5,200 kW (7,000 hp) electric-driven pump units, piping, control systems and related facilities would be required along the proposed pipeline, four in Alberta and three in Saskatchewan.

Other Facilities:

- Mainline valves
- Cathodic protection system
- In-line inspection facilities
- Permanent access roads for pump stations and valve sites
- Temporary infrastructure such as construction access roads, pipe storage sites, contractor yards and construction camps

Any additional modifications or decommissioning/abandonment activities would be subject to future examination under the NEB Act and consequently, under the CEA Act, as appropriate. Therefore, at this time, these activities will be examined in a broad context only.

AAFC, the CTA and TC have determined, based on their respective triggers under the CEA Act, that their scopes of project for the purposes of the EA will be:

- For AAFC, based on section 5(1)(c) of the CEA Act, any pipeline crossings of Prairie Farm Rehabilitation lands for which Keystone requires AAFC licenses;
- For the CTA, based on section 101(3) of the *Canada Transportation Act*, any pipeline crossings of federally regulated railway lines;
- For TC, based on the *Navigable Waters Protection Act* and section 108 of the NEB Act, any watercourse crossings (pipeline crossings and bridges) of navigable waterways.

These include all construction, operation, maintenance, modification, and decommissioning (including closure and reclamation) activities related to those project components.

2.2 Factors to be Considered

The EA will include a consideration of the following factors listed in paragraphs 16(1) (a) to (d) of the CEA act:

- (a) the environmental effects of the project, including the environmental effects of malfunctions or accidents that may occur in connection with the project and any cumulative environmental effects that are likely to result from the project in combination with other projects or activities that have been or will be carried out;
- (b) the significance of the effects referred to in paragraph (a);
- (c) comments from the public that are received in accordance with the CEA Act and regulations; and
- (d) measures that are technically and economically feasible and that would mitigate any significant adverse environmental effects of the Project.

For further clarity, subsection 2(1) of the CEA act defines ‘environmental effect’ as:

- (a) any change that the project may cause in the environment, including any change that the project may cause to a listed wildlife species, its critical habitat or the residences of individuals of that species as defined in the *Species at Risk Act*;
- (b) any effect of any change referred to in paragraph (a) on
 - i. health and socio economic conditions,
 - ii. physical and cultural heritage,
 - iii. the current use of lands and resources for traditional purposes by aboriginal persons,
 - iv. any structure, site or thing that is of historical, archaeological, paleontological, or architectural significance; or
- (c) any change to the project that may be caused by the environment, whether any such change or effect occurs within or outside Canada.

2.3 Scope of Factors to be Considered

The EA will consider the potential effects of the proposed Project within spatial and temporal boundaries which the Project may potentially interact with, and have an effect on components of the environment. These boundaries will vary with the issues and factors considered, and will include but not be limited to:

- construction, operation, decommissioning, site rehabilitation and abandonment or other undertakings that are proposed by the Proponent or that are likely to be carried out in relation to the physical works proposed by the Proponent, including mitigation and habitat replacement measures;
- seasonal or other natural variations of a population or ecological component;
- any sensitive life cycle phases of wildlife species in relation to project scheduling;
- the time required for an effect to become evident;
- the time required for a population or ecological component to recover from an effect and return to a pre-effect condition, including the estimated degree of recovery;
- the area within which a population or ecological component functions; and
- the area affected by the Project.

For the purpose of the assessment of the cumulative environmental effects, the consideration of other projects or activities that have been or will be carried out will include those for which formal plans or applications have been made.

APPENDIX 2 COMMENTS ON THE DRAFT ESR

Agencies	Comments	Section in ESR where wording was modified	Explanation on why change was not made to the ESR
TC	TC specified revisions to existing wording on TC's mandate and scope of its analysis.	Revisions made to section 2.1	n/a
	TC recommended that the scope of the EA should be provided in the Appendix to the ESR	Added as an appendix to the ESR and revisions made to section 3.0	n/a
	TC suggested to include 'Wetlands' category and include a statement describing the proposed watercourse crossings in the 'Description of the Environment'	A new wetlands section was added to section 5.0 and navigable waterways were included in the Socio-Economic Environment	The proposed watercourse crossing methods are already included in Table 2
	TC suggested to include a statement that describes Keystone's ongoing terrestrial studies	n/a	This comment has already been addressed in section 8.4.1
	TC suggested to include a statement describing Keystone's on-going consultation efforts with interested Aboriginal groups in section 6.3	Revisions made to section 6.3	n/a
	TC specified revisions to the methodology of the NEB's EA that reflects section 2 of the CEA Act	n/a	Section 2 of the ESR specifies the EA is under the CEA Act and section 3 indicates that the scope is in accordance with the CEA Act
	TC proposed additions to section 8.2 – Project Environment Interactions	These comments were added to section 8.2	n/a
	TC recommended including a Condition that describes Keystone's commitment to file an update on its consultations with aboriginal people. TC also suggested to include effective measures to prevent or mitigate impacts and should be reflected in the updated EPP.	Condition L was added in section 8.7 and revisions were made to section 6.3	n/a
	TC stated that any alternatives or alterations to watercourse crossings must be reviewed and/or approved by the TC prior to commencement of construction	These comments are added to section 8.4.3	n/a
	TC stated that it may conduct a follow-up program to ensure that any conditions detailed in its authorization are carried out by Keystone.	Revisions made to section 8.6	n/a

Agencies	Comments	Section in ESR where wording was modified	Explanation on why change was not made to the ESR
	TC suggested to include 'amended mitigation measures for Aboriginal heritage and traditional resources' in the description for the affected watercourse crossings	Revisions made to Condition C (b) (iii)	n/a
EC	EC noted that there are three additional burrowing owl burrows in the prairie dog colony and that the proponent should maintain the 500 m setback and undertake appropriate surveys.	These comments were added to section 8.4.1	n/a
	EC raised concerns with the timing of the migratory bird surveys that need to be completed prior to construction or clearing within restrictive periods.	Revisions made to Condition O	n/a
	EC stated that appropriate SARA species specific setbacks should be observed and surveys should be undertaken accordingly.	n/a	As part of Condition O (d), Keystone will consult with EC on the proposed methodology for the survey, the results from the survey and the mitigation and monitoring to be used.
Keystone	Keystone specified revisions to section 8.4.1 regarding the use of frog proofing and trenchless construction methods.	Revisions made to section 8.4.1	
	Keystone proposed modifications to the recommended conditions to enable the filing of materials in advance of and with respect to, each of the major components of the Project.	n/a	This comment on the conditions was also made during the hearing. The Board considered it and is of the view that this would create an inordinate number of filings, unnecessary complexity in terms of tracking information provided in each filing and has the potential to miss information and commitments. Consequently the Board has decided to leave the relevant conditions as originally proposed.

